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The University of North Carolina at Wilmington

Graduate Catalogue
1990-1991

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AT WILMINGTON

The University of North Carolina at Wilmington

GRADUATE CATALOGUE

1990-1991
Bulletin 1

The University of North Carolina at Wilmington is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Moreover, The University of North Carolina at Wilmington is open to people of all races and actively seeks to promote racial integration by recruiting and enrolling a larger number of black students.

Cover: Friday Hall by Gladys Going Faris, a Wilmington, NC artist who received her degree in art at the University of Georgia. She has exhibited in solo and group shows where her work has won awards.

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All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of The University of North Carolina at Wilmington.

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F. P. Fensel
Chairman
Board of Trustees

Dr. William H. Wagoner
Chancellor

On behalf of the Board of Trustees of The University of North Carolina at Wilmington let me welcome you to our campus.

We are grateful to you for deciding to continue your studies with us, and we are confident that your decision to pursue "scholarship by the sea" will be a fulfilling experience. We are proud of this community of scholars and wish you every success as you join that community.

F P Fensel

F. P. Fensel
Chairman of the Board

As Chancellor, it is my pleasure to greet you as you join the graduate program at The University of North Carolina at Wilmington.

One of our proudest achievements is the expansion of opportunities here to pursue graduate study in many disciplines, and we are delighted that you have chosen our institution as the place you will continue your growth in learning and scholarship. We wish you well in all of your endeavors.

William H. Wagoner

William H. Wagoner
Chancellor

1990

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CALENDAR OF EVENTS*
1990-91

Fall Semester, 1990

August 13, Monday	Academic year begins
August 19, Sunday	On-campus housing opens
August 20-21, Monday-Tuesday	Orientation and advising
August 22, Wednesday	Registration
August 23, Thursday	Classes begin
August 29, Wednesday	Last day to add a class or drop without a grade
September 3, Monday	Labor Day Holiday
September 13, Thursday	Faculty meeting
October 3, Wednesday	Last day to withdraw with W - undergraduate students
October 10, Wednesday	Fall vacation begins 10:30 p.m.
October 15, Monday	Fall vacation ends 8:00 a.m.
October 25, Thursday	Graduation application deadline Spring 1991
November 9, Friday	Last day to withdraw with a WP - graduate students
November 20, Tuesday	Thanksgiving vacation begins 10:30 p.m.
November 26, Monday	Thanksgiving vacation ends 8:00 a.m.
December 7, Friday	Last day of classes
December 8, Saturday	Reading Day
December 10-15, Monday-Saturday	Final examinations
December 17-18, Monday-Tuesday	Final examinations
December 18, Tuesday	Fall semester ends/on-campus housing closes

Spring Semester, 1991

January 2, Wednesday	On-campus housing opens
January 3, Thursday	Orientation and advising
January 4, Friday	Registration
January 7, Monday	Classes begin
January 11, Friday	Last day to add a class or drop without a grade
January 21, Monday	Martin Luther King Holiday
February 15, Friday	Last day to withdraw with W - undergraduate students
March 1, Friday	Spring vacation begins 10:30 p.m.
March 11, Monday	Spring vacation ends 8:00 a.m.
March 15, Friday	Graduation application deadline, Summer 1991
March 26, Tuesday	Last day to withdraw with WP - graduate students
March 28, Thursday	Easter vacation begins 10:30 p.m.
April 1, Monday	Easter vacation ends 8:00 a.m.
April 4, Thursday	Faculty meeting
April 24, Wednesday	Last day of classes
April 25, Thursday	Reading Day
April 26-27, Friday-Saturday	Final examinations
April 29-May 4, Monday-Saturday	Final examinations
May 4, Saturday	Spring semester ends/on-campus housing closes
May 11, Saturday	Commencement, academic year ends

Summer Session, 1st, 1991

May 16, Thursday	On-campus housing opens
May 17, Friday	Registration
May 20, Monday	Classes begin
May 21, Tuesday	Last day for registration
May 22, Wednesday	Last day to withdraw without a grade
May 29, Wednesday	Last day to withdraw with W - undergraduate students
June 7, Friday	Last day to withdraw with WP - graduate students
June 18, Tuesday	Last day of classes
June 19, Wednesday	Final examinations; term ends

Summer Session, 2nd, 1991

June 23, Sunday	On-campus housing opens
June 24, Monday	Registration
June 25, Tuesday	Classes begin
June 26, Wednesday	Last day for registration
June 27, Thursday	Last day to withdraw without a grade
June 28, Friday	Graduation application deadline, Fall 1991
July 4, Thursday	Independence Day Holiday
July 5, Friday	Last day to withdraw with W - undergraduate students
July 16, Thursday	Last day to withdraw wtih WP - graduate students
July 25, Thursday	Last day of classes
July 26, Friday	Final examinations; term ends

*Calendar may be adjusted due to state legislative action.

CALENDAR OF EVENTS*
1991-92

Fall Semester, 1991

August 12, Monday	Academic year begins
August 17, Saturday	On-campus housing opens for new students
August 18, Sunday	On-campus housing opens for returning students
August 19-20, Monday-Tuesday	Orientation and advising
August 21, Wednesday	Registration
August 22, Thursday	Classes begin
August 28, Wednesday	Last day to add a class or drop without a grade
September 2, Monday	Labor Day Holiday
September 12, Thursday	Faculty meeting
October 2, Wednesday	Last day to withdraw with W - undergraduate students
October 9, Wednesday	Fall vacation begins 10:30 p.m.
October 14, Monday	Fall vacation ends 8:00 a.m.
October 24, Thursday	Graduation application deadline, Spring 1992
November 8, Friday	Last day to withdraw with a WP - graduate students
November 26, Tuesday	Thanksgiving vacation begins 10:30 p.m.
December 2, Monday	Thanksgiving vacation ends 8:00 a.m.
December 6, Friday	Last day of classes
December 7, Saturday	Reading Day
December 9-14, Monday-Saturday	Final examinations
December 16-17, Monday-Tuesday	Final examinations
December 17, Tuesday	Fall semester ends/on-campus housing closes

Spring Semester, 1992

January 8, Wednesday	On-campus housing opens
January 9, Thursday	Orientation and advising
January 10, Friday	Registration
January 13, Monday	Classes begin
January 17, Friday	Last day to add a class or drop without a grade
January 20, Monday	Martin Luther King Holiday
February 21, Friday	Last day to withdraw with W - undergraduate students
February 28, Friday	Spring vacation begins 10:30 p.m.
March 9, Monday	Spring vacation ends 8:00 a.m.
March 13, Friday	Graduation application deadline, Summer 1992
March 31, Tuesday	Last day to withdraw with WP - graduate students
April 9, Thursday	Faculty meeting
April 16, Thursday	Easter vacation begins 10:30 p.m.
April 20, Monday	Easter vacation ends 8:00 a.m.
April 29, Wednesday	Last day of classes
April 30, Thursday	Reading Day
May 1-2, Friday-Saturday	Final examinations
May 4-9, Monday-Saturday	Final examinations
May 9, Saturday	Spring semester ends/on-campus housing closes
May 16, Saturday	Commencement, academic year ends

Summer Session, 1st, 1992

May 21, Thursday	On-campus housing opens
May 22, Friday	Registration
May 25, Monday	Classes begin
May 26, Tuesday	Last day for registration
May 27, Wednesday	Last day to withdraw without a grade
June 3, Wednesday	Last day to withdraw with W - undergraduate students
June 12, Friday	Last day to withdraw with WP - graduate students
June 19, Friday	Graduation application deadline, Fall 1992
June 23, Tuesday	Last day of classes
June 24, Wednesday	Final examinations; term ends

Summer Session, 2nd, 1992

June 28, Sunday	On-campus housing opens
June 29, Monday	Registration
June 30, Tuesday	Classes begin
July 1, Wednesday	Last day for registration
July 2, Thursday	Last day to withdraw without a grade
July 6, Monday	Independence Day Holiday
July 10, Friday	Last day to withdraw with W - undergraduate students
July 21, Tuesday	Last day to withdraw with WP - graduate students
July 30, Thursday	Last day of classes
July 31, Friday	Final examinations; term ends

*Calendar may be adjusted due to state legislative action.

ADMINISTRATIVE OFFICERS OF THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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George E. Bair, Ph.D. ..... *Special Assistant to the Chancellor*
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LeRoy Oakley, III, B.S., C.P.A. ..... *Director of Systems and Budget*
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John M. Geddie ..... *Director of Safety*
Charles A. Maimone, M.A. ..... *Director of Housing and Food Service*

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Joseph V. Capell, M.Div. ..... *Director of Financial Aid*
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Linda Moore, M.Ed. ..... *Director of University Union*
Kathleen Jewell, M.D. ..... *Director of Student Health and Wellness Center*
James C. Braye, M.S. ..... *Director of Career Planning and Placement*

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Howard R. Lipman, B.S. ..... *Executive Director of Resources Development*
Renee R. Brantley, A.B.J. ..... *Director of Publications*

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Ralph H. Parker, M.Ed. ..... *Director of Minority Affairs*
Howard R. Lipman, B.S. ..... *Executive Director of Resources Development*
George E. Bair, Ph.D. ..... *Compliance Officer*

GRADUATE COUNCIL MEMBERSHIP 1989-90

Chair: Dean Eric G. Bolen

College of Arts and Sciences

Dr. Carolyn H. Simmons, Dean, College of Arts and Sciences
Dr. Mark Galizio, Psychology, term ends August, 1990
Dr. Barbara F. Waxman, English, term ends August, 1990
Dr. Victor A. Zullo, Earth Sciences, term ends August, 1991
Dr. John W. Myers, Fine Arts, term ends August, 1992

Cameron School of Business Administration

Dr. Norman R. Kaylor, Dean, Cameron School of Business Administration
Dr. Roger P. Hill, Economics & Finance, term ends August, 1991
Dr. John A. Marts, Accountancy & Business Law, term ends August, 1982

School of Education

Dr. Roy E. Harkin, Dean, School of Education
Dr. Carol C. Thomas, Curricular Studies, term ends August, 1991
Dr. Bill J. Johnston, Educational Design & Management, term ends August, 1992

School of Nursing

Dr. Marlene M. Rosenkoetter, Dean, School of Nursing
Dr. Helen Faller, term ends August, 1992

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Dr. Charles L. Cahill, Provost
Dr. John J. Manock, Director of Research Administration
Mr. Eugene W. Huguelet, Director of Library Services

The University

THE UNIVERSITY OF NORTH CAROLINA
Sixteen Constituent Institutions

General Administration Officers

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Roy Carroll, B.A., M.A., Ph.D., ... *Vice President - Planning*
Nathan F. Simms, Jr., B.S., M.S., Ph.D., ... *Vice President - Student Services and Special Programs*
L. Felix Joyner, A.B., ... *Vice President - Finance*
Jasper D. Memory, B.S., Ph.D., ... *Vice President - Research and Public Services*
Wyndham Robertson, A.B., ... *Vice President - Communications*
Jay M. Robinson, B.S., M.A., Ed.D., ... *Vice President - Public Affairs*
David G. Martin, B.A., LL.B., ... *Secretary of the University*
Richard H. Robinson, Jr., A.B., LL.B., ... *Assistant to the President*
John W. Dunlop, B.A., ... *Director, The University of North Carolina Center for Public Television*

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THE UNIVERSITY OF NORTH CAROLINA

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Asa T. Spaulding, Jr., Vice Chairman
Samuel H. Poole, Secretary

Class of 1991

Irwin Belk
Wayne A. Corpening
J. Earl Danieley
Charles D. Evans
James E. Holshouser, Jr.
Joy J. Johnson
Robert L. Jones
John R. Jordan, Jr.
Betty R. McCain
Samuel H. Poole
W. Travis Porter
J. Aaron Provost
Louis T. Randolph
Joseph E. Thomas
Gus H. Tulloss

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Lois G. Britt
Walter R. Davis
Charles Z. Flack, Jr.
John A. Garwood
R. Phillip Haire
Wallace N. Hyde
Reginald F. McCoy
Martha F. McNair
D. Samuel Neill
Ellen S. Newbold
Maxine H. O'Kelley
Maceo A. Sloan
Asa T. Spaulding, Jr.
Harold H. Webb
Ruth Dial Woods

Members Emeriti

Philip G. Carson
William A. Dees, Jr.
William A. Johnson

HISTORY OF THE UNIVERSITY

The University of North Carolina is comprised of all the public institutions of higher education in North Carolina that confer degrees at the baccalaureate level or higher. The university was authorized by the State Constitution in 1776, and it was chartered in 1789 by the General Assembly.

The University of North Carolina opened its doors to students at Chapel Hill in 1795. Thereafter, beginning in the latter part of the nineteenth century, the General Assembly of North Carolina has established and supported fifteen other public senior institutions in keeping with Article IX, Section 8, of the Constitution of North Carolina which provides that the "General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise."

By 1969, The University of North Carolina included six constituent institutions, governed by a single Board of Trustees. This multi-campus university had its beginnings in legislation enacted in 1931 that defined The University of North Carolina to include The University of North Carolina at Chapel Hill, North Carolina State University at Raleigh, and The University of North Carolina at Greensboro. In the 1960's three additional campuses were added: The University of North Carolina at Charlotte, The University of North Carolina at Asheville, and The University of North Carolina at Wilmington.

Beginning in 1877, the General Assembly of North Carolina established or acquired ten additional separately governed state-supported senior institutions of higher education. They are Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. Then, in 1971, the General Assembly redefined The University of North Carolina, and under the terms of that legislation all sixteen public senior institutions became constituent institutions of The University of North Carolina.

The constitutionally authorized Board of Trustees of the six-campus University of North Carolina was designated by the Board of governors and this body is by law The University of North Carolina. The Board of Governors consists of thirty-two members elected by the General Assembly, and it is charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." The chief executive officer of the university is the president. Each constituent institution of the university has its own faculty and student body. The chief administrative officer of each institution is the chancellor, and the chancellors are responsible to the president.

Each constituent institution also has a Board of Trustees composed of thirteen members: eight elected by the Board of Governors, four appointed by the governor, and the elected president of the study body ex officio. (The School of the Arts has two additional ex-officio trustees.) The principal powers of these institutional board are exercised under a delegation of authority from the Board of Governors.

BOARD OF TRUSTEES
THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

The University of North Carolina at Wilmington was founded in 1947 as Wilmington College, a locally supported and governed institution, to provide the youth and adults of New Hanover County and southeastern North Carolina an opportunity for two years of university parallel study, semiprofessional training and vocational-teaching education at moderate expense. From these beginnings and goals and through a series of transformations with ever-widening programs and aspirations, in 1969 it became a constituent institution of The University of North Carolina, whose purpose, resources, and direction it shares.

The University of North Carolina at Wilmington is a community of scholars dedicated to teaching, learning, creating, and extending knowledge through research. Its objectives are to stimulate curiosity, imagination, and creativity; to communicate both general knowledge and the facts and concepts particular to various disciplines and professional programs; to foster clear thinking, rational decision-making, and fluent, accurate communication; and to develop skills appropriate to the various disciplines and professional programs.

The programs offered by the university include four-year programs leading to the Bachelor of Arts and Bachelor of Science degrees within the College of Arts and Sciences, the Cameron School of Business Administration, the School of Education, and the School of Nursing; graduate programs leading to the Master of Education, the Master of Science, the Master of Arts, the Master of Arts in Teaching, and the Master of Business Administration degrees; a variety of pre-professional programs; and special programs in a variety of areas, including Marine Science Research, Army ROTC, and Continuing Education. The university's recent development has made possible increasingly diverse contributions, some of international significance. Its aim is to continue and to improve its innovative programming comprehensive approach to meeting the wide-ranging needs of the region, the state, and the larger community.

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of The University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the

academic year 1946-47. In 1947, a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Education. In 1948, Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952, the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958, New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree. By vote of the Board of Trustees of The University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, The University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of The University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus The University of North Carolina now comprises 16 institutions.

On August 22, 1977, the Board of Governors of The University of North Carolina authorized The University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

In the spring of 1985, the Board of Governors of The University of North Carolina elevated The University of North Carolina at Wilmington to a Comprehensive Level I University.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Southern Association of Colleges and Schools and the North Carolina Association of Colleges and Universities. The School of Education is accredited by the National Council for Accreditation of Teacher Education. The university also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support of Education, and is on the list of schools approved by the American Chemical Society.

THE FACULTY

The university seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 336 instructional and research faculty, more than 69 percent hold doctoral degrees.

In addition to its primary responsibilities of teaching, the faculty actively engages in research and creative pursuits. Research interests are widespread in the various disciplines within the humanities, natural, physical, behavioral, and social sciences, and the professions. One of the major areas of interest is the marine sciences in which extensive research is conducted in such fields as marine biology, chemical and physical oceanography, and coastal environments. Many of these research activities culminate in the publication of books and scholarly articles and presentation of papers at professional associations, bringing acclaim to the university as well as to the faculty. Other faculty members are widely recognized for their outstanding achievements in the literary, visual, and performing arts.

As an outgrowth of their professional training and/or university affiliation, UNCW faculty members serve the community at large in various ways. Many participate in artistic, business, educational, governmental, religious and other professional and humanitarian activities. Inasmuch as the university is dedicated to serving its total constituency, faculty members are encouraged to serve in an educational, advisory or informational capacity to enhance the welfare of the community at large.

STATEMENT ON DIVERSITY IN THE UNIVERSITY COMMUNITY

In an effort to address the needs of the total university community, the chancellor has endorsed the following statement of principle proposed by the Human Relations Advisory Committee:

As an institution of higher learning, The University of North Carolina at Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity.

Accordingly, the university supports policies, curricula and co-curricular activities that encourage understanding of an appreciation for all members of its community and will not tolerate any harassment of or disrespect for persons because of age, sex, color, race, religion, creed, national origin, sexual preference, political belief or affiliation, handicap, veteran status, marital status, or membership in any organization.

For more information concerning the ways that our multicultural learning community may be nurtured and protected, contact the Human Relations committee through the offices of the chancellor or the dean of students.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of The University of North Carolina at Wilmington, in recognition of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

Recipients

1978 B. Frank Hall
1979 Frank Allen
1980 Steve Harper
1981 Gerald Shinn
1982 William F. Adcock –(posthumously)
1983 Betty Jo Welch
1984 Anne B. McCrary
1985 Charles Richard Ward
1986 John H. Haley
1987 Saul Bachner
1988 C. Sue Lamb
1989 W. Lee Johnston

THE UNCW AWARD FOR FACULTY SCHOLARSHIP

The UNCW Award for Faculty Scholarship is designed to underscore this institution's continuing commitment to scholarship and creative work. Recipients of the award shall stand out among the faculty as persons who have made, and continue to make, a significant contribution to the university and the academic community through their commitment to scholarship, research, and creativity.

THE FOUNDATION CHAIR

The Foundation of The University of North Carolina at Wilmington is a charitable, nonprofit corporation established for the sole purpose of supporting the university. Through private donations it supports a faculty chair, designated to assist the university in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the university to bring to this campus renowned scholars and performing artists. In filling the chair a special effort is made to select individuals whose contributions will benefit not only the university, but also the community at large.

The Campus

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 650-acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River, is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 97,400. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness to the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities.

The spacious well-landscaped campus was first occupied by the university in 1961. The number of buildings has increased from three in 1961 to 66 today. There are several athletic fields and ample space for parking.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the cafeterias and residence halls, are completely air-conditioned.

Edwin A. Alderman Hall, which houses administrative offices, is named in honor of a native Wilmingtonian who served as president of The University of North Carolina, The University of Virginia and Tulane University.

Hoggard Hall, an academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the School of Nursing, laboratories, the computing center, special programs, institutional research, research administration, and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the Fine Arts Department. It contains classrooms, faculty offices, art and music studios, the musical library, and electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

Will S. DeLoach Hall houses the departments of chemistry and physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and modern, well-equipped laboratories for the physical sciences.

Friday Hall, named in honor of UNC President Emeritus William C. Friday and his wife, Ida, was completed in 1974. It houses the departments of biological sciences and earth sciences and contains classrooms and laboratories.

Arnold Kimsey King Hall houses the School of Education and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory.

Isaac Bear Hall, completed in 1972, contains the Graduate School and the Department of Mathematical Sciences.

Cameron Hall, occupied in 1988, houses the Cameron School of Business Administration.

Morton Hall, named for Margaret Shannon Morton, was completed in October 1978 and houses the departments of English, history, and foreign languages. The building contains classrooms, seminar rooms, and the Bryan Auditorium which seats 200.

The Social and Behavioral Sciences Building was completed in 1980. It houses the departments of psychology, philosophy and religion, political science, and sociology/anthropology, as well as some offices of the campus computing center.

The Sarah Graham Kenan Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium is also equipped for use as a theatre and contains seminar rooms for the Department of Fine Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of all students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000-seat coliseum as well as an olympic-size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

The University Union is the second largest building on campus. Serving as the "living room" of the university community, it houses a wide variety of services, student and administrative offices, while providing space for campus activities and meetings.

Hinton James Hall, named for a New Hanover County resident who was the first student to enroll at The University of North Carolina, houses the Financial Aid Office, Registrar Services, Undergraduate Admissions, Cashier, and the office of the dean of the College of Arts and Sciences.

The Burney Student Support Center opened in the summer of 1985. Centrally located adjacent to the University Union, it houses the University Bookstore, Student Health Services, Student Development Center, and the Parking Office.

The university has two cafeterias, West Dining Hall opened in 1971 and East Dining Hall opened in 1989, which provide space for food service for students and faculty. These facilities contain modern food service equipment which allows for many different food and catering services.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student residence hall, Addison Hewlett, Jr., Hall, opened in the fall of 1978. Another residence hall for 220 students, Frederick B. Graham Hall, was occupied in the fall of 1979. In the fall of 1981, the 400-student apartment complex was completed and occupied. Schwartz Hall opened in the fall of 1985 for an additional 160 students. Suite housing for 400 students opened in the fall of 1989.

WILLIAM MADISON RANDALL LIBRARY

The William Madison Randall Library constitutes a vital instructional and research resource of The University of North Carolina at Wilmington. Named for the president emeritus of Wilmington College, the library, recently enlarged and completely renovated, provides seating for over 950 users and will accommodate a collection of 475,000 hardbound volumes in addition to separate collections.

The library now contains over 325,000 hardbound volumes and subscribes to some 5,000 serial titles. Extensive journal backfiles are maintained in bound volumes and in microformat. A growing audiovisual collection containing resources in several formats is conveniently located on the first floor, and a 73-seat auditorium is equipped for various types of audiovisual use. Rare and unique items are housed in the Helen Hagan Rare Book Room. An online catalogue and circulation system provides easy, efficient access to most of the library's collections.

The library is a partial depository for United States government publications, and the collection now consists of over 340,000 items. The library is a full depository for North Carolina documents. These materials are readily available to all of the library's users.

Maintaining a schedule of over 98 hours per week during the regular academic sessions, the library has established as its major goal the provision of an excellent program of services designed to facilitate and encourage maximum use of informational resources.

HERBERT BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Herbert Bluethenthal Memorial Wildflower Preserve is a tract of approximately 10 acres set aside on the campus by the University's Board of Trustees in response to a donation by Mrs. Herbert Bluethenthal of Wilmington. The preserve includes a wide variety of plant communities, marked trails to follow, and labeled plants to observe. It is dedicated to the preservations of the rich and varied flora of southeastern North Carolina and has been designed to provide a place of contentment and pleasure for those who enjoy and appreciate our native plants.

COMPUTING SERVICES

General academic computing support for student course-related instruction and research is provided through both terminal access to central facility Digital Equipment VAX minicomputer and numerous microcomputers located throughout the campus. The central computer facility is supplemented by several supermicrocomputers and a SEQUENT Balance B8 parallel-processor system running the UNIX operating system in the Department of Mathematical Sciences; a complex of microcomputers in the Cameron School of Business Administration; and specialized use microcomputers in the areas of English, social sciences, biology and nursing.

The central VAX minicomputer operates under the VAX/VMS operating system and supports such general use compilers and processors as COBOL, BASIC, PASCAL, PL/1, FORTRAN, a spreadsheet, wordprocessor, and statistical analysis and graphics packages including SAS and SPSS-X and IMSL (International Mathematical Subroutine Library). Terminal emulation software is available for microcomputer interface to the VAX system.

A campus-wide network provides access to the on-campus systems, as appropriate, and the Randall Library on-line public access catalog system. A variety of special equipment such as laser printers and plotters are available for general use.

The university is connected to BITNET, a communications network of over 2,000 institutional and departmental computers at 375 institutions of higher education and research centers in the U.S.A., Canada, Europe and Asia. Access to BITNET is restricted and to be used only for authorized university-related activities.

The CRAY Y-MP supercomputer located at the North Carolina Supercomputer Center, Research Triangle Park, will be available to faculty and graduate students for appropriate and approved projects. Access to the supercomputer will be through the UNCW data network. The intent is to provide all students maximum access to state-of-the-art computing. Students must establish a user account to utilize the central VAX system and must abide by the rules and policies for use of the facilities including microcomputers. A user guide to UNCW computing facilities is available in the campus bookstore. Contact Academic Computing Services for information on academic computing facilities and services.

OFFICE OF SPECIAL PROGRAMS

The Office of Special Programs plays a major role in fulfilling the UNC system's goal to make its resources and expertise available to the public through community services, consulting and technical assistance. Its mission centers on a "service" concept and programs are designed to cater to the needs of the community and state. These vary and are outlined under the headings of public service, conference hosting, and extension.

Public Service Programs

Public service programs are presented to raise awareness of events that affect daily life or contribute to personal enrichment. These non-academic activities include guest speakers, discussion groups, short courses, workshops and conferences covering topics ranging from local problems to international affairs.

A variety of short courses, conferences, and workshops are also specifically designed for businesses, industries and professionals. University faculty and other qualified individuals conduct programs in communications, management, planning, supervision, small business administration or other similar topics. Faculty from the Cameron School of Business Administration conduct courses in business as well as a comprehensive series designed specifically for certified public accountants.

The university also assists school systems with programs and courses for professional improvement of teachers. Courses are designed to meet certification and renewal requirements and/or provide general training for teachers and administrators.

As another dimension of public service, the Office of Special Programs also assists community groups with scheduling university facilities for meetings, seminars and other programs.

Conference Hosting

Because the university is vitally interested in assisting both the general public and organizations, the Office of Special Programs provides conference hosting for a wide variety of groups whose mission coincides with the UNC system. Comprehensive services are "tailormade" according to the needs of each group and can encompass meeting space, housing accommodations, food services, registrations or billing. These conferences, for groups ranging from 20 to 600 persons, can be for credit or noncredit, meeting for one day or many weeks. Special emphasis is given to recruiting non-profit groups with training/education purposes.

Extension Courses

University extension (academic) courses are offered on the freshman level at Bladen Community College in Dublin and Sampson Community College in Clinton, North Carolina. The community colleges recruit and enroll students who are high school graduates or the equivalent. Students enrolled in the program who wish to become degree candidates at the university must apply and meet regular admission requirements for freshmen or transfer students.

Additional extension offerings also include undergraduate and graduate courses in the field of education at off-campus sites. Utilizing faculty from the School of Education, these courses meet the staff development and/or graduate education requirements of local teachers.

Extension registrations are received by the Office of Special Programs, but requests for transcripts should be sent to the registrar of The University of North Carolina at Wilmington.

Further information concerning all programs may be obtained by contacting the director of special programs.

CENTER FOR MARINE SCIENCE RESEARCH

The Center for Marine Science Research at The University of North Carolina at Wilmington is dedicated to providing an environment that fosters a multidisciplinary approach to questions in basic marine research. The mission of the center is to promote basic and applied research in the fields of oceanography, coastal and wetland studies, marine

biomedical and environmental physiology, and marine biotechnology and aquaculture. Faculty members conducting marine science research in the departments of biological sciences, chemistry, and earth sciences participate in this program.

The center fosters research programs of the highest quality and thereby enhances the educational experience provided by The University of North Carolina at Wilmington for both undergraduate and graduate students in marine science.

The center's primary facilities are located on a four-acre tract near the Intracoastal Waterway at Wrightsville Beach. Encompassing 16,000 square feet these facilities house 14 research laboratories, various science and administrative offices, a video equipment/editing room, a fully equipped machine tool shop, an aquatic specimens holding room, a seminar/conference room and a USDA licensed animal facility. Additional laboratory space is available for research requiring constant flow-through seawater.

The center maintains eight research vessels ranging in size from 13 to 22 feet and specialized equipment including a Superphantom Remotely Operated Vehicle, a low temperature aquarium room, anatomic absorption spectrophotometer, and an extensive microscopy capability including transmission electron, inverted, phase-contrast, and confocal tandem scanning.

The Center for Marine Science Research serves as host for the NOAA sponsored National Undersea Research Center for the Southeastern United States. Based upon competitive proposals NURC annually supports fisheries management, ocean floor processes, and other research projects from the Gulf of Main to the Gulf of Mexico.

Student Affairs

STUDENT AFFAIRS

The basic mission of the Division of Student Affairs is to encourage student use o personal, institutional, community, and other resources toward the goals of individua development, self-fulfillment, and a responsible citizenship. Its programs and services are directed toward assisting students in their educational and personal development

OFFICE OF THE DEAN OF STUDENTS

The Office of the Dean of Students serves as the primary focal point for addressing student needs, issues and concerns, and serves as a resource and referral office for al faculty, staff and students. Acting in an advocacy role, the dean and assistant dean o students represents the student perspective to the university community. This office works with all segments of the university to help students develop through opportunities, advice and assistance. Within the Student Affairs Division, the Office of the Dean of Students provides consultation, new program development and assistance to the vice chancello with special projects. Specifically, the office assists in the coordination of orientation fo freshmen and transfer students, advises international, non-traditional students and com muter students, publishes the *Student Handbook and Code of Student Life*, administers the student judicial system, including violations of the Academic Honor Code; coordinates the official withdrawal process from the university for undergraduate students; and assists the Office of Federal Compliance in processing cases of discriminatory personal conduct including sexual harassment. Additionally, the Office of the Dean of Students coordinates programs and policy on rape prevention and assistance, substance abuse education and prevention, and implements developmental programs to meet assessed and perceived student needs. The Office of the Dean of Students also provides supervision for the Resi dence Life Program and ALTERNATIVES! the Substance Abuse Education and Prevention Program.

SERVICES FOR INTERNATIONAL STUDENTS

The Office of the Dean of Students works with all international students in all manners relating to their stay at the university. The assistant dean serves as the international student advisor and is available to assist international students on immigration, personal concerns, or academic matters. This office cooperates closely with other university staf and faculty members in answering questions or concerns raised by international students Each new international student is required to report as soon as possible after his/he arrival to the Office of the Dean of Students, room 209, University Union, telephone (919 395-3119.

ALTERNATIVES!

The Alternatives! program is responsible for providing a systematic and comprehen sive set of services for substance abuse education and prevention to all segments o the university community. The center serves as a highly visible and accessible multi media resource area containing drug education materials, as well as information on alternatives to drug use. Personal growth and self-concept enriching experiences are provided to students through alternative learning opportunities. The center serves as a clearinghouse for other campus and community resources and provides consultation information, or referral as appropriate. Additional educational opportunities for the entire campus are offered as needed. The terms "substance" and "drug" are intended to include all psychoactive chemicals including alcohol, stimulants, depressants, opiates and hallucinogens.

UNIVERSITY UNION

The University Union exists to provide support and give direction to out-of-classroom earning. Based on the philosophy that the process of learning is not confined to the classroom, but instead is a constant and ongoing process, the mission of the union is to acilitate the educational process by providing a laboratory experience for student growth, and an arena for the development of cultural, social, and recreational awareness. This is accomplished through the administration of the Union facility, its programs and services, providing resources to student organizations, and serving as the campus's central point of reference in regard to student activities and organizations.

STUDENT DEVELOPMENT SERVICES

Student Development Services, which include the Student Development Center and the Career Planning and Placement Center, provide support and assistance for students personal, career, social and learning skill development. The services help students build satisfying and successful college experiences and prepare for the transition from college to work or to graduate study.

The John J. Burney Student Development Center

The John J. Burney Student Development Center provides confidential individual and group counseling for personal, social, career or educational concerns. Decision-making resources for careers and college majors include a computer guidance system, interest testing, and an information library. Special assistance is offered with learning strategies, study, reading and exam-taking skills. Workshops are regularly scheduled on these topics as well as on personal growth, communication skills and stress management. As part of the university substance abuse education and prevention program, the center also provides a substance abuse assessment, referral and treatment for faculty, staff and students.

The center acts as a clearinghouse for disabled students' concerns and assists with tutoring, equipment and advocacy needs. The office also administers national testing programs such the GRE, GMAT, NTE, MATand LSAT.

Consulting and referral services are provided by the center's staff for university faculty, staff and student groups.

Career Planning and Placement Center

The Career Planning and Placement Center provides career planning and placement services to students and alumni of UNCW. Assistance in developing career plans is available through individual advising, workshops and seminars. The office also provides information and counseling on careers, specific job requirements, employers, and graduate school programs. Students are encouraged to use these services early in their college career.

The office publicizes specific job openings (part-time, summer and full-time and state and federal government); makes individual referrals; schedules recruiting visits; maintains company literature; and provides information about public and private schools, and state and federal government opportunities.

Seniors should register with the Career Planning and Placement Center in their junior or early in their final year to establish a credentials file and to avail themselves of all placement services including resume writing, interviewing skills and planning a job search.

RESIDENCE LIFE PROGRAM

The Office of Residence Life, located in Residence Life Activity Center, is responsibl for the development of educational, cultural and social programs to enhance studer life on campus. The purpose of the Residence Life program is to create an environmer conductive to academic and social growth within the halls. The office is responsible for th supervision of all students who reside in the residence halls and the apartment buildings

The university has residence hall facilities for approximately 800 men and 800 women i modern, conveniently located residence halls. In addition, 400 spaces are available in 1 apartment buildings. All rooms are air-conditioned and furnished, and laundry facilitie are available. Residence hall students are required to take their meals in the universit cafeteria under a five-day or seven-day plan. Students living in the apartments are require to take a limited meal plan.

FOOD SERVICE

The university operates two modern, air-conditioned cafeteria buildings. Short-order foo service is available in the university Hawk's Nest located in the University Union. Service i on a cash basis for non-boarding students.

STUDENT HEALTH AND WELLNESS CENTER

The Student Health and Wellness Center (SHWC) located in the Student Support Cente is open 8:30 a.m to 5:00 p.m., Monday through Friday. After 6:30 p.m. during the week an all weekend a Hanover Medical Specialists physician is on call for urgent or emergenc medical care.

The Student Health and Wellness Center (SHWC) provides diagnosis and treatment c general and acute medical problems. The health fee is part of the student fee and entitle students taking six or more credit hours* (living on or off campus) to health care services The SHWC is staffed by a physician, one physician assistant, one family nurse practitione three nurses, a medical assistant, and the coordinator of health promotion.

In addition to the treatment of general medical problems, the scope of services include laboratory testing to diagnose a variety of medical problems, allergy injections, gynecologi examination and counseling, weight control and nutrition counseling, smoking cessatior crisis intervention, and referral as indicated. The Student Health and Wellness Center doe not issue excuses for class absences due to illness.

Each newly admitted UNCW student is required to have the following forms on fil in the SHWC prior to enrollment: 1) a completed and up to date Report of Medica History and Physical Examination and 2) a complete and up to date Immunizatio Record required by the N.C. Immunization Law (General Statues 130A152).

*Students taking less than six hours will be entitled to health care services upon paymer of the health fee and will be required to have the above forms on record.

STUDENT HEALTH INSURANCE

The student health fee covers most medical care given at the Student Health an Wellness Center on a prepaid basis. The health fee will not cover the costs of a studer who requires hospitalization or specialty care. It is strongly recommended that student who are not covered for major medical expenses (serious injuries due to accidents c hospitalization) under their family health insurance contact the SHWC or the Office of th Dean of Students for information and forms regarding the Student Group Health Insuranc Plan available at a nominal cost through the university.

OFFICE OF HEALTH PROMOTION/LIVEWELL

The Office of Health Promotion/Livwell is the outreach wellness program of the Student Health and Wellness Center designed to encourage and support healthy lifestyle choices and behaviors.

The office is located in the Livwell/Alternatives Center, University Union 104, and provides wellness opportunities that include seminars, lifestyle and nutritional assessments, resources materials, and other health related information.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington routinely has made public certain information about its students. Typically, UNCW releases the names of students who are selected by the various honorary societies, receive scholarships, make the Dean's List, hold offices, or are members of athletic teams. The annual commencement program publishes the names of persons who have received degrees from UNCW during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following information: the students name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The university will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing.

Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration thereafter.

STUDENT CONDUCT

The filing of an application of admission shall be construed as both an evidence and pledge that the applicant accepts the standards and regulations of The University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, is obligated to obey all rules and regulations of the university as stated in the *Student Handbook and Code of Student Life*, the university catalogue and other university publications. The university reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

A policy statement was adopted by the Board of Trustees of the former consolidated University of North Carolina on October 26, 1970. It is set forth in Chapter V of the *Code Provisions Governing The University of North Carolina*, and is set forth in full in the *Student Handbook and Code of Student Life.*

POLICY STATEMENT ON ILLEGAL DRUGS

Students, faculty members, administrators, and other employees of The University of North Carolina at Wilmington are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or

manufacture those drugs designated collectively as "controlled substances" in Article of Chapter 90 of the North Carolina General Statues. A copy of this law is available in th following offices: Personnel, Dean of Students, and Academic Affairs. Any member of th university community who violates that law is subject both to prosecution and punishme by the civil authorities and to disciplinary proceedings by UNCW. In accordance wi policy adopted by the Board of Governors of The University of North Carolina and th Board of Trustees of UNCW, disciplinary proceedings against a student, faculty membe administrator, or other employee will be initiated when the alleged conduct is deemed affect the interests of UNCW.

Penalties will be imposed for violation of the policies of UNCW only in accordance wi procedural safeguards applicable to disciplinary actions against students, faculty mer bers, administrators, and other employees. The penalties that may be imposed range fro written warnings with probationary status to expulsions from enrollment and discharg from employment. For more information, please refer to the *Code of Student Life, The Co* of The University of North Carolina (Section 603) and Personnel Procedure No. 610.

Every student, faculty member, administrator, and other employee of UNCW is respo sible for being familiar with, and complying with, the terms of the policy on illegal dru adopted by the Board of Governors of The University of North Carolina and the Boa of Trustees of UNCW. Copies of the full text of the policy appear below as well in the *Code of Student Life, Faculty Handbook,* and it is available in the Personn Office.

POLICY ON ILLEGAL DRUGS

Introduction

The fundamental purpose of The University of North Carolina at Wilmington (UNC is to maintain an environment that supports and encourages the pursuit and dissem nation of knowledge. That environment is damaged by illegal drug use. Therefo all members of the academic community, students, faculty members, administrato and other university employees, share the responsibility for protecting the en ronment by exemplifying high standards of professional and personal conduct.

Policy and Program

A. The illegal use, possession, sale, delivery and/or manufacture of drugs will not b tolerated and may be grounds for immediate suspension or dismissal of studen faculty members, administrators and other university employees.

B. UNCW policies and programs are intended to emphasize:
   1. The incompatibility of the use or sale of illegal drugs with the goals of t university.
   2. The legal consequences of involvement with illegal drugs.
   3. The medical implications of the use of illegal drugs.
   4. The ways in which illegal drugs jeopardize an individual's present acco plishments and future opportunities.

C. UNCW will provide a systematic substance abuse education and preventi program designed to reach all segments of the campus community. To ass in accomplishing this mission, the Center for Substance Abuse Education a Prevention is developing a well-integrated centralized program that is a fo point for campus substance abuse education, training and prevention, and w monitor the effectiveness of programs for constituencies served. This Cen provides substance abuse counseling and referral services on campus and in t

external community. It also provides consultative services to offices and agencies in the university environment and collaborates with the Employees Assistance Coordinator in the university Personnel Office to develop counseling and referral services for faculty and staff desirous of seeking assistance off-campus. This UNCW policy is presented within the four areas of education, counseling and rehabilitation, enforcement and penalties, and assessment.

Education

A. Provide a system of accurate, current information exchange on the health risks and symptoms of drug use for students, faculty and staff.

B. Promote and support institutional activity programming that discourages substance abuse.

C. Establish collaborative relationships between community groups and agencies and the institution for education, treatment and referral.

D. Provide training programs for students, faculty, and staff to enable them to detect problems related to drug use, and to refer persons with these problems to appropriate assistance.

E. Include information about drugs for students and family members in the student orientation programs. The use of prescription and over-the-counter drugs will be addressed.

F. Support and encourage faculty in incorporating education about drugs into the curriculum where appropriate.

G. Develop a coordinated effort across campus for drug related education, treatment and referral.

Counseling and Rehabilitation

A. UNCW provides information about drug counseling and rehabilitation services available to members of the university community. Persons who voluntarily avail themselves of university services can be assured that applicable professional standards of confidentiality will be observed. Counseling and rehabilitation services include:
   1. Provision of training for professional staff and student staff on drug abuse information, intervention and referral.
   2. Conducting education programs for students who have demonstrated abusive behavior with drugs.
   3. Conducting individual and group counseling for members of the university community with drug problems.
   4. Conducting drug abuse assessments.
   5. Coordinating referral and follow up of campus individuals and developing a referral and follow up mechanism in collaboration with the employee assistance coordinator in the Personnel Office.
   6. Organizing campus self-help groups.
   7. Providing consultation, information and referral for students, staff and faculty with drug problems.
   8. Designing and developing referral opportunities for members of the university community who desire to seek professional assistance beyond the campus.

This will be done in cooperation with the employee assistance coordinator in the Personnel Office.

9. Providing with peer involvement a system of intervention and referral services for students, faculty and staff.

B. In providing the above prevention strategies, it is recognized that some campus constituents may prefer professional assistance external to the campus. The campus community substance abuse education and prevention program coordinator will collaborate with the employee assistance coordinator in the development of appropriate referral mechanisms for these individuals. A listing of off campus resources for assistance and referral will be made available for those who choose that option. In the development of this program, it is desired that faculty, students, administrators and other employees be comfortable in the manner in which they are served and have a choice in the selection of appropriate assistance. Individuals served in the counseling program on campus can be assured that confidentiality will be maintained and that they will be served by professionals.

Enforcement and Penalties

A. Enforcement

In seeking to enforce established university policy, The University of North Carolina at Wilmington will:

1. Publicize all drug policies.
2. Consistently enforce drug policies.
3. Exercise appropriate disciplinary action for drug policy violations.

B. Penalties

UNCW shall take actions necessary, consistent with state and federal law and applicable university policy, to eliminate illegal drugs from the university community. University policy on illegal drugs will be publicized in the university catalog, student and faculty handbooks, student orientation materials,letters to students and parents, residence hall meetings and faculty and employee meetings.

Students and faculty members, administrators, and other employees are responsible as citizens for knowing about and complying with the provisions of the North Carolina law that makes it a crime to possess, sell, deliver, or manufacture drugs designated collectively as "controlled substances" in Article V, Chapter 90 of the North Carolina General Statutes. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. It is not "double jeopardy" for both the civil authorities and the university to proceed against and punish a person for the same specified conduct. The university will initiate its own disciplinary proceedings against the student, faculty member, administrator, or other employee when the alleged conduct is deemed to affect the interest of the university.

Penalties will be imposed by UNCW in accordance with procedural safeguards applicable to disciplinary actions against students (see *Code of Student Life,* Section II), faculty members (see Policies of Academic Freedom and Tenure, UNCW, Section VII), and administrators and other employees (see Procedure No. PER 6.10 and Personnel Policies of Designated Employment Exempt from State Personnel Act - EPA Administrative Positions).[1]

The penalties to be imposed by the university may range from written warning with probationary status to expulsion from enrollment and discharge from employment; however, the following minimum penalties shall be imposed for the particular offenses described.

1. Trafficking in Illegal Drugs
   a. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell, or deliver any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, heroin, mescaline, lysergic acid diethylamide, opium, cocaine, amphetamine, methaqualine), any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
   b. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell or deliver, any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, marijuana, pentobarbitals, codeine), the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   For a second offense, any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
2. Illegal Possession of Drugs
   a. For a first offense involving the illegal possession of any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-90, the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   b. For a first offense involving the illegal possession of any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, the minimum penalty shall be probation, for a period to be determined on a case-by-case basis. A person on probation must agree to participate in a drug education and counseling program, consent to regular drug testing, and accept such other conditions and restrictions, including a program of community service as the chancellor or chancellor's designee deems appropriate. Refusal or failure to abide by the terms of probation shall result in suspension from enrollment or employment for any unexpired balance of the prescribed period of the probation.
   c. For the second or other subsequent offenses involving the illegal possession of controlled substances, progressively more severe penalties shall be imposed, including expulsion of students and discharge of faculty members, administrators, or employees.
3. Suspension Pending Final Disposition
   When a student, faculty member, administrator, or university employee has been charged by UNCW with a violation of policies concerning illegal drugs, he or she may be suspended from enrollment and/or employment before initiation or completion of regular disciplinary proceedings if, assuming the truth of the charges, the chancellor, or in the chancellor's absence, the chancellor's designee concludes that the person's continued presence within the university community would constitute a clear or immediate danger to the health or welfare of other members of the university community; provided that, if such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held as promptly as possible thereafter.

Assessment

A. UNCW shall in its effort to continually assess the campus environment:
   1. Appraise the institutional environment as an underlying cause of drug abuse.
   2. Assess campus awareness, attitudes, and behaviors regarding the use of drugs and employ results in program development.
   3. Collect and use drug related summary information from policy and security reports to guide program development.
   4. Collect and use summary health, counseling, and client information to guide program development.
   5. Collect summary data regarding drug related disciplinary actions and use it to guide program development.

B. Annually, the chancellor shall submit to the Board of Trustees a report of campus activities related to illegal drugs for the preceding year. The report shall including the following:
   1. A listing of major education activities conducted during the year;
   2. A report on any illegal drug related incidents, including any sanctions imposed;
   3. An assessment by the chancellor of the effectiveness of the campus program; and
   4. Any proposed changes in university policy on illegal drugs.
   The chancellor shall provide a copy of this report to the president.

[1]Rules of the State Personnel Commission govern the disciplinary actions that may be taken against SPA employees. Under current Commission regulations discharge, rather than suspension, is the applicable penalty for SPA employees in those instances where this policy otherwise requires suspension.

Student Life

STUDENT LIFE

UNIVERSITY UNION

Student life is enriched at The University of North Carolina at Wilmington by a broad spectrum of activities, most of which occur in or around the University Union. The Union is a 53,000 square-foot facility that houses students organization offices, conference rooms, recreation and games facilities, lounges, study areas, snack bar, rental lockers, the University Information Center, U.S. Post Office, Wachovia Banking Machine, and an assortment of student services. With the guidance of the Office of Student Activities, students are provided opportunities to plan, execute, attend, and evaluate a wide variety of programs and activities. With the belief that education is not bound to the classroom, it is the University Union's goal to educate, entertain and enlighten the university community, while providing a laboratory for student growth and an area for development of cultural, social and recreational awareness.

STUDENT ACTIVITIES OFFICE

The Office of Student Activities, located in the Union, works to expand and complement the student's education by providing support to the approximately seventy student organizations that are officially registered on campus. The Student Activities Office assists organizations with the planning, execution and evaluation of events and activities that are not only entertaining, but also educational. The office provides expertise in the areas of activity programming, contract negotiation, university policy and procedure explanations, budget preparation, publicity and promotion and organization development.

THE LEADERSHIP CENTER

The Leadership Center provides a comprehensive program that promotes student and organizational development and awareness of contemporary issues through leadership training, education and development activities. These activities are varied, but include workshops, retreats, publications, speakers, resources, seminars, consultations, and self-assessments. Through collaboration among Student Affairs staff and academic faculty, a cohesive program encourages students how to recognize, evaluate and cultivate the potential strengths within themselves and others.

These programs improve the quality of the overall campus experience by providing opportunities to learn about and practice leadership. Ultimately, the program goal is to create a dynamic process that will continue after the student's college experience and encourage them to improve the world as active citizens in our changing democracy.

MINORITY AFFAIRS OFFICE

The Minority Affairs Office is responsible for the implementation of programs and activities designed to enhance the overall experiences of minority students at UNCW. Through direct sponsorship of or participation in Minority Visitation Day, orientation, workshops, recruitment, a minority mentor program, the tutorial assistance program, and other activities, the office provides an added dimension to the traditional services offered to UNCW students. All students are invited to visit the office, in room 211 of the University Union, or call 919-395-3832, to discuss ways in which the office may be of service.

UNIVERSITY INFORMATION CENTER

The Information Center, located on the first floor of the University Union, provides a variety of information on campus, student and community activities. The center also sells discount movie tickets, concert tickets, and is the repository for campus lost and found items.

POSTAL SERVICES

A U.S. Post Office, which provides all postal service, is in the University Union. UNCW provides each student with a post office box where all mail (except grades) is delivered. This box is the official means in which students receive university mail.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the university is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interest of the university and upholding a high standard of morals and conduct. It is responsible for the disbursement of half of the student activity fee. This money supports the Student Government Association in its objectives and campus activities. The association is a member of the North Carolina Association of Student Governments.

ASSOCIATION FOR CAMPUS ENTERTAINMENT (ACE)

The Association for Campus Entertainment coordinates the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, recreational, and cultural growth for students and the campus community. ACE is comprised of the following committees: Fine Arts/Lecture, Film-Video, Concert, Coffeehouse, Minority Arts, and Special Events. The board is a member of the National Association for Campus Activities.

STUDENT ORGANIZATIONS

A variety of social, academic, and service organizations enhances student life at UNCW. National sororities and fraternities are established on the campus to recognize students for their leadership and service activities. Several departments in the university have locally and nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. Students are encouraged to contact the Office of Student Activities for specific information relative to a student organization.

MEDIA AND PLUBICATIONS

The *Seahawk,* the student newspaper, is published weekly. Its staff is composed entirely of students.

The *Fledgling,* the student-produced yearbook, contains the usual features of a college annual.

The *Atlantis,* a literary magazine, is published by students each semester.

The *Channel Marker* is a calendar published monthly by the Student Activities Office to provide information regarding the dates and times of campus events and activities.

The *Student Handbook and Code of Student Life* is the primary source of information regarding university regulations and campus life.

WLOZ, the campus cable radio station, is completely run by students. The station broadcasts daily.

ATHLETICS

The university holds membership in the National Collegiate Athletic Association the Colonial Athletic Association. Varsity intercollegiate teams are fielded for me basketball, cross country, baseball, golf, soccer, tennis, swimming, and track and f Variety intercollegiate teams for women are fielded in basketball, softball, tennis, volley swimming, golf, cross country, and track and field.

In addition, an intramural sports program is provided for the student body. The gram is based on both a competitive and recreational basis, and participation is untary.

Expenses

EXPENSES

The Board of Governors of The University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Tuition and Fees (In effect at time of publication)

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to The University of North Carolina at Wilmington.

Full Time Charges Per Semester (nine or more semester hours):

	In-State Students	Out-of-State Students
Tuition	$260.00	$2,446.00
Fees	274.00	274.00
Total	$534.00	$2,720.00

Other Fees:

Application Fee (to accompany application, nonrefundable)	$15.00
Transcript Fee	1.00
Graduation Fee	35.00

Certain courses have additional fees which increase the semester charges shown above. These fee courses are indicated in the course schedule for each semester.

Graduate students registering for nine or more semester hours will be charged at the full-time rate as shown above. Students scheduling fewer than nine semester hours will pay tuition and fees as follows:

Semester Hours	In-State Students	Out-of-State Students*
0-Thesis only	$152.50	$ 423.50
1-2	$ 98.50	$ 645.50
3-5	$163.50	$1,256.50
6-8	$241.00	$1,881.00

The privileges of students taking fewer than nine hours per semester will be restricted to class attendance and use of the library; however, by paying a Special Use Fee of $18.00 per semester, these students will be entitled to use all physical education facilities which are available to full-time students.

*See information on residency at the end of this section.

No degree, diploma, transcript of credit, or grades will be furnished a student until all financial obligations to the university, other than student loans, have been paid. All previously incurred expenses and accounts at the university must be paid in full prior to preregistration or registration for a new term.

On-Campus Living

The university offers residence hall living, double occupancy, in Belk Hall, Graham Hall, Hewlett Hall and Schwartz Hall. Two meal plans are available for students living in these halls. The rates per semester are as follows:

Room and Board:	15 meals	$1,353.00
Room and Board:	21 meals	$1,378.00

Galloway Hall offers conventional style living, double occupancy, with two meal plans available. The rates per semester are as follows:

Room and Board:	15 meals	$1,363.00
Room and Board:	21 meals	$1,388.00

University apartment living, four (4) students to an apartment, is also offered with the choice of three meal plans. The rates per semester are as follows:

Apartment and Board:	10 meals	$1,453.00
Apartment and Board:	15 meals	$1,478.00
Apartment and Board:	21 meals	$1,503.00

Students may also elect to live in the University Suites, in either a single or double room with the choice of three meal plans. There are ten (10) students per suite. The rates per student per semester are as follows:

Suites/Single Room and Board:	10 meals	$1,503.00
Suites/Single Room and Board:	15 meals	$1,528.00
Suites/Single Room and Board:	21 meals	$1,553.00
Suites/Double Room and Board:	10 meals	$1,428.00
Suites/Double Room and Board:	15 meals	$1,453.00
Suites/Double Room and Board:	21 meals	$1,478.00

Dining facilities are available on Saturdays and Sundays on a cash basis to all resident students not on a 10 or 21 meal plan. Food service is also available to non resident students seven days per week. Off-campus students have the choice of paying cash for meals or purchasing a meal plan through the Housing Office, located in the East Cafeteria. Rates for off-campus meal plans are per semester as follows:

10 meals	$528.00
15 meals	$553.00
21 meals	$578.00

An advance room reservation deposit of $100.00 to be applied to the room and board account must be remitted by each applicant along with the complete application for room and board.

Those interested in obtaining information should contact:
Housing Office
The University of North Carolina at Wilmington
Wilmington, North Carolina 28403-3297

Summer Session

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

Refunds Tuition

A student who officially withdraws from the university on or before the last day of the registration (drop/add) period will receive a refund of the amount paid. Students withdrawing from the university after the drop/add period will be charged 10 percent of all semester charges for each week of classes that have been held that semester. This weekly charge begins with the first day of scheduled classes regardless of the actual date of enrollment. No refunds will be made for withdrawals after the end of the ninth week of scheduled classes.

This refund policy applies to complete withdrawals from UNCW. If you simply reduce your course load after the drop/add period, you will receive NO refund reduction of fees whatsoever.

Refunds Financial Aid

Students who receive financial aid are not given refunds on financial aid received when charges are prorated due towithdrawal.

Refunds Housing

Housing agreements are effective for the full academic year. Agreements made subsequent to the beginning of the fall semester remain in effect until the close of the spring semester. Housing deposit and charges will not be refunded except as provided for below:

1. **New Students (incoming freshmen and transfers).** If a new student, after remitting the deposit and being accepted to on-campus housing, decides not to live on campus and gives notice of this decision in writing by May 15, 1990, in the case of application for the fall semester, or at least one month prior to the semester in the case of application for the spring semester, the deposit shall be refunded, less a $25.00 administrative charge. Requests for refund received after May 15, 1990, will be denied and the $100.00 deposit forfeited. This condition also applies to students remitting the deposit and accepted to oncampus housing after May 15, 1990.

2. **Returning Students (students currently or previously enrolled at UNCW).** The $100.00 housing deposit is non-refundable to returning students after being accepted to on-campus housing (exceptions being marriage, transferring to another institution or withdrawal from UNCW less $25.00 administrative fee). Notification must be received in the Housing Office, in writing, by May 15, 1990.

3. Room rent for either semester will not be refunded once a student officially moves into a residence hall/apartment.

4. A pro rata refund of dining charges will be made to students who officially withdraw from the university.

Residence Status for Tuition Payment

The basis for determining the appropriate tuition charge rests upon whether a student is a resident or a nonresident for tuition purposes. Each student must make a statement as to the length of his or her residence in North Carolina, with assessment by the institution of that statement to be conditioned by the following:

Residence. To qualify as a resident for tuition purposes, a person must become a legal resident and remain a legal resident for at least 12 months immediately prior to classification. Thus, there is a distinction between legal residence and residence for tuition purposes. Furthermore, twelve months legal residence means more than simple abode in North Carolina. In particular, it means maintaining a domicile (permanent home of indefinite duration) as opposed to maintaining a mere temporary residence or abode incident to

enrollment in an institution of higher education. The burden of establishing facts that justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification, who must show his or her entitlement by the preponderance (the greater part) of the residentiary information.

Initiative. Being classified a resident for tuition purposes is contingent on the student's seeking such status and providing all information that the institution may require in making the determination.

Parent's Domicile. If an individual, irrespective of age, has living parent(s) or court-appointed guardian of the person, the domicile of such parent(s) or guardian is, prima facie, the domicile of the individual; but this prima facie evidence of the individual's domicile may or may not be sustained by other information. Further, nondomiciliary status of parents is not deemed prima facie evidence of the applicant child's status if the applicant has lived (though not necessarily legally resided) in North Carolina for the five years preceding enrollment or reregistration.

Effect of Marriage. Marriage alone does not prevent a person from becoming or continuing to be a resident for tuition purposes, nor does marriage in any circumstances insure that a person will become or continue to be a resident for tuition purposes. Marriage and the legal residence of one's spouse are, however, relevant information in determining residentiary intent. Furthermore, if both husband and his wife are legal residents of North Carolina and if one of them has been a legal resident longer than the other, then the longer duration may be claimed by either spouse in meeting the twelve-month requirement for instate tuition status.

Military Personnel. A North Carolinian who serves outside the state in the armed forces does not lose North Carolina domicile simply by reason of such service. And students from the military may prove retention or establishment of residence by reference, as is other cases, to residentiary acts accompanied by residentiary intent.

Grace Period. If a person (1) has been a bona fide legal resident, (2) has consequently been classified a resident for tuition purposes, and (3) has subsequently lost North Carolina legal residence while enrolled at a public institution of higher education, that person may continue to enjoy the in-state tuition rate for a grace period of twelve months measured from the date on which North Carolina legal residence was lost. If the twelve months end during an academic term for which the person is enrolled at a state institution of higher education, the grace period extends, in addition, to the end of that term. The fact of marriage to one who continues domicile outside North Carolina does not by itself cause loss of legal residence, marking the beginning of the grace period.

Minors. Minors (persons under 18 years of age) usually have the domicile of their parents, but certain special cases are recognized by the residence classification statue in determining residence for tuition purposes.

(a) If a minor's parents live apart, the minor's domicile is deemed to be North Carolina for the time period(s) that either parent, as a North Carolina legal resident, may claim and does claim the minor as a tax dependent, even if other law or judicial act assigns the minor's domicile outside North Carolina. A minor thus deemed to be a legal resident will not, upon achieving majority before enrolling at an institution of higher education, lost North Carolina legal residence if that person (1) upon becoming an adult acts, to the extent that the person's degree of actual emancipation permits, in a manner consistent with bona fide legal residence in North Carolina and (2) begins enrollment at an institution of higher education not later than the fall academic term following completion of education prerequisite to admission at such institution.

(b) If a minor has lived for five or more consecutive years with relatives (other than parents) who are domiciled in North Carolina and if the relatives have functioned during this time as if they were personal guardians, the minor will be deemed a resident for tuition

purposes for an enrolled term commencing immediately after at least five years in which these circumstances have existed. If under this consideration a minor is deemed to be a resident for tuition purposes immediately prior to his or her eighteenth birthday, that person on achieving majority will be deemed a legal resident of North Carolina of at least 12-months duration. This provision acts to confer instate tuition status even in the fact of other provisions of law to the contrary; however, a person deemed a resident of 12-months duration pursuant to this provision continues to be a legal resident of the State only so long as he or she does not abandon North Carolina domicile.

Lost but Regained Domicile. If a student ceases enrollment at or graduates from an institution of higher education while classified a resident for tuition purposes and then both abandons and reacquires North Carolina domicile within a 12-month period, that person, if he or she continues to maintain the required domicile into re-enrollment at an institution of higher education, may re-enroll at the in-state tuition rate without having to meet the usual 12-month durational requirement. However, any one person may receive the benefit of this provision only once.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal withdrawal from enrollment) must be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual enrollment. A resident status classification once assigned (and finalized pursuant to any appeal properly taken) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary division of the academic year.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial residence status classification for tuition purposes.

The initial classification of graduate students as in-state or out-of-state residents for tuition purposes is made by the Graduate School. Appeals for in-state status may be made to the campus appeals body, Out-of State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in "A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes." Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the undergraduate Admissions Office and in Randall Library.

FINANCIAL AID FOR GRADUATE STUDENTS

MINORITY PRESENCE GRANT PROGRAM

Under the Board of Governors general Minority Presence Grant Program, black students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework, and demonstrate financial need.

ASSISTANTSHIPS

Graduate Teaching Assistantships are available on a limited basis in the Cameron School of Business Administration; School of Education; and the College of Arts and Sciences in the departments of biological sciences, chemistry, earth sciences, English, history and mathematics. A limited number of Graduate Research Assistantships are available through the Department of Biological Sciences. The admission application process determines the candidates for these awards. For information contact the specific department/school or the Graduate School.

FELLOWSHIPS/SCHOLARSHIPS

The Graduate School's Awards for New Scholars. A limited number of scholarships are available to students entering any of UNCW's graduate programs for the first time. Students do not apply for these scholarships. Instead, nominations originate with the departments, which submit their recommendations to the dean of the Graduate School. Criteria include evidence of exceptional scholarship, normally strong GRE scores (or their equivalent) and an excellent undergraduate GPA.

The Champion McDowell Davis Scholarship is available to students from any major. This scholarship covers tuition and fees, books and other selected expenses and is awarded to students based on academic achievement, leadership potential and demonstrated financial need. A selection committee is charged with selecting the recipients each year. Application can be made at the Financial Aid Office.

The Sylvia and B. D. Schwartz Graduate Fellowship Award may be awarded to any gradate student enrolled at The University of North Carolina at Wilmington. Recipients shall be determined by the Graduate School and will receive an amount equal to in-state tuition and fees.

The J. W. Jackson Scholarship has a $2,000 per year value and is restricted to a junior-senior or graduate student enrolled in The Cameron School of Business. The scholarship is designed for students with high academic potential. Applications can be made in the Financial Aid Office. Students awarded this scholarship are eligible to reapply.

The Hans Langhammer, M.D. Memorial Scholarship is awarded annually to undergraduate or graduate minority student(s) who demonstrate financial need and academic potential. The scholarship(s) may be renewed if an overall 2.0 grade point average is maintained.

The Zonta Scholarship is awarded annually to a University of North Carolina at Wilmington female student of junior or senior standing, or a female graduate student enrolled in an approved program. She should be enrolled at least half time and have an overall grade point average of 3.0, have leadership potential, be of high ethical standards, and show promise in her chosen profession.

LOANS/COLLEGE WORK STUDY PROGRAM

The Mellie Hill Barlow Loan Fund is set up to provide no-interest loans to students at UNCW who are orphans or are from single-parent homes. The loans carry a legal obligation to be repaid. Applications can be made at the Financial Aid Office.

Students who are enrolled at least half time in the Graduate School at UNCW may apply for the following types of financial aid:

Stafford Loan Program provides loans to graduate students who qualify on the basis of financial need. Applicants complete the regular financial aid application process in addition to completing a loan application. Students may borrow up to $7,500 per academic year for five years. Repayment begins six months after the student ceases to be enrolled at least half time. The interest rate is calculated at eight percent for the first four years of repayment, but escalates to 10 percent during the fifth year of repayment. Borrowers may be given up to 10 years to repay their loans.

Supplemental loans for students provide funds to cover their college expense in addition to those borrowed under the Guaranteed Loan program. These loans are available to independent graduate students who meet federal eligibility requirements, and attend school at least half time. In determining eligibility, the credit worthiness of the borrower is of primary importance. Students may borrow up to $4,000 per year for a cumulative total of $20,000. However, no student may borrow more than his cost of education minus other aid received.

Repayment begins immediately with the first installment due 60 days after receipt of your money. A variable interest rate will be calculated annually based on a federal formula, but cannot exceed 12 percent.

Parent Loans for graduate students may be secured by the parent to assist in covering educational costs. Parents may borrow up to $4,000 per year for a combined total of $20,000. However, a parent may not borrow any amount that would make the total amount of financial assistance that both the student and the parent receive greater than the cost of attendance at UNC Wilmington. In determining eligibility, credit worthiness of the borrower is of primary importance. A variable interest rate will be calculated annually based on a federal formula. The new rate will begin each year, but cannot exceed 12 percent.

The College Work-Study Program, which is federally funded, provides part-time jobs on the UNCW campus for students who have financial need and who must earn part of their educational expenses. To be eligible for work-study, a student must be enrolled for at least half time and must be a citizen or permanent resident of the United States. The application and financial statement must demonstrate financial need.

For additional information, contact the Financial Aid Office.

Grad EXCEL Educational Loan for Graduate Students offers graduate and professional students a signature loan based on projected future earnings, rather than on current income and creditworthiness. Annual loan amounts range from $2,000 to $7,500 (up to $12,000 for Graduate Law students) when a student borrows on his/her own, or up to $20,000 annually with a creditworthy co-borrower. Borrowers can choose between two interest rate options, and have three repayment options: (1) deferred principal and interest payments while enrolled; (2) deferred principal payments while enrolled; (3) fixed monthly payments of principal and interest. Repayment periods range from four to 20 years, depending on amount borrowed.

For more information or a Grad EXCEL application, please call Nellie Mae at 1-800-634-9308 or (617) 849-3447, or write to: Nellie Mae, Grad EXCEL Department, 50 Braintree Hill Park, Suite 300, Braintree, MA 02184.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the university. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved. For further assistance, contact the veterans coordinator in the Student Financial Aid Office.

Academic Regulations and Procedures

ACADEMIC REGULATIONS AND PROCEDURES

REGISTRATION

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in graduate programs are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

PREREGISTRATION

Preregistration for students currently enrolled is held each semester. Students who complete preregistration and who pay fees by the designated date are registered except in the event that they are declared academic ineligible at the end of the preceding semester. Graduate students receive notification from their advisor, through their campus post office box, regarding an appointment time to discuss their schedule. They will be given a permit to preregister at the time of their appointments.

COURSE CREDIT

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to the Graduate School, except as described in the paragraphs below.

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or school dean, as appropriate, and (2) present it to the dean of the Graduate School for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Graduate courses taken at this institution before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit. A maximum of 10 hours may be applied toward the degree.

Degree-related extension courses offered at this institution may be applied toward a graduate degree as follows: (a) with the approval of the appropriate dean, a non-degree student may apply for a maximum of six hours of relevant courses as transfer credits at the time of admission to a program, (b) with the prior approval of the appropriate dean, a student who is already admitted to a degree program may apply up to six hours of relevant courses toward the residence requirement. Requests for application of an additional six hours toward the residence requirement may be submitted to the dean of the Graduate School.

TRANSFER OF COURSE CREDIT

A maximum of six semester hours of graduate credit may be transferred from another accredited institution in partial fulfillment of the total hours required for the master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition the Graduate School for transfer of more than six

semester hours. Each such petition must be accompanied by a statement of endorsement from the appropriate dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the dean of the Graduate School only upon recommendation of the dean of the school or college in which the student is enrolled. The Graduate School must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree. Transfer of credit does not reduce minimum residence requirements for a master's degree.

A graduate student who wishes to take one or more courses elsewhere for graduate degree credit must obtain prior approval from the appropriate dean and the dean of the Graduate School.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate program and do not carry either course or residence credit.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing, but all such courses are recorded as part of the official record.

ADDING, DROPPING, WITHDRAWING

Courses may be added only in the official drop/add period, which is noted in the Calendar of Events. To add a course, the student must present to the registrar a drop/add card signed by his or her graduate coordinator/advisor and the course instructor.

Every course for which a student is registered must be either completed or formally dropped; however, no course may be dropped in the last five weeks in a semester or during the last week of summer session.

To drop a course, the student must obtain a Schedule Revision Card from his or her advisor. If the advisor approves, the student must obtain the instructor's signature and indication of whether the student is passing or failing the course. The Schedule Revision Card must then be presented to the registrar for approval.

If, at the time a student drops a course, performance in that course is judged by the instructor to be passing, a grade of WP is assigned on the student's permanent record; however, if the student is judged by the instructor to be failing, a grade of F is assigned on the student's permanent record, and the student becomes ineligible for further registration.

A student may not use a Schedule Revision Card to drop his or her only course, but must officially withdraw from the university. To withdraw officially from the university, a student must come to the Graduate School and complete a permit to withdraw.

GRADUATE GRADING

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

H - clear excellence
P - entirely satisfactory
L - low passing
F - fail
S - satisfactory progress on thesis
I - work incomplete
WP - withdraw passing

A student receiving grades of L on any three courses or on 12 semester hours (whichever comes first) or any grade of F in a graduate course is ineligible to continue in graduate school. When special circumstances warrant, students declared ineligible under the preceding paragraph may be reinstated upon petition by the student to the dean of the Graduate School. Each such petition must be accompanied by a statement of endorsement or nonendorsement from the dean of the school or college in which the student is enrolled. Any reinstatement is provisional in that an additional grade below P will again result in the student's ineligibility.

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The instructor may set the maximum allowable period for completion of the course work, but in no case will extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the dean of the Graduate School. If, within 12 months, a grade change request has not been submitted by the instructor, the incomplete automatically becomes an F.

Grades of H, P, L, S, F, and WP are permanent grades and can be changed only by the dean of the Graduate School in cases of arithmetical or clerical error or as a result of protest of grade.

PROCEDURE FOR PROTEST OF GRADE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeal must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the dean of the college or school within which the protested grade was awarded. By conferring with the student and the instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will transmit the written appeal to the dean of the Graduate School. The dean of the Graduate School will convene the Grade Appeals Committee.

The Grade Appeals Committee will consist of the graduate dean as chairman and five members of the graduate faculty appointed by the graduate dean. If the committee affirms the instructor's decision, the graduate dean will notify in writing the faculty member, the student, and the appropriate dean. If the committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be further appealed.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examination at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of this desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period.

Rescheduling of a final examination for an entire class requires the approval of the appropriate dean.

TRANSCRIPTS

Transcripts are issued to students at the cost of $1.00 each. All requests for transcripts must be in writing and must include the student's signature.

INDEBTEDNESS

All indebtedness to the university must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar of any change in name or permanent mailing address.

SAFETY AND HEALTH PROGRAM

UNCW's safety program complies with the State Occupational Safety and Health Act of 1973.

RESIDENCE CREDIT COMPUTATION

Conversion of semester hours to residence credit is on the following basis:

1. Nine or more semester hours in a given semester earn a full semester of residence.
2. Six to eight semester hours earn one-half semester of residence.
3. Three to five semester hours earn one-fourth semester of residence.
4. Credits earned in any summer session count towards residence credit on the same basis as courses taken in regular semesters.

MASTER'S DEGREE EXAMINATION

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or school. Neither examination may be taken until the course work is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the dean of the school or college in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination.

A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor.

A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the dean of the Graduate School. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

REGISTRATION FOR THESIS

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only courses for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of university faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of university faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded. GRADE OF S

FOREIGN LANGUAGE REQUIREMENT

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in a given program must be one of the options approved for that program by the Graduate School.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such a requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her dean will be asked to certify on the application of candidacy that such a requirement has been met.

APPLICATION FOR ADMISSION TO CANDIDACY AND FOR THE DEGREE

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree, but fails to meet a deadline for a particular graduation, he or she must reapply for the degree, specifying a new graduation date.

DEGREE TIME LIMITS

A graduate student has five calendar years to complete his or her degree program. The five-year period begins with the student's first term of work after formal admission to a degree-granting program. Work completed as a non-degree student does not initiate the five-year period for completing a degree program.

Courses taken more than five calendar years prior to the admission of a student into a degree program at UNCW normally are not accepted for credit toward fulfilling the requirements of the student's degree program. In some cases, however, with approval of the student's advisory committee and department/unit chair, a student may petition the Graduate School to accept for credit work that is more than five years old.

When extenuating circumstances warrant, an extension of the time limit for completing a graduate program may be granted to a student upon his or her petition to the dean of the Graduate School. Such petitions must include an explanation and the endorsement of the student's advisory committee and academic unit's chair or dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of each individual.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. Complete details may be found in the current *Student Handbook and Code of Student Life* and in the *Faculty Handbook*.

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. All faculty members are responsible for setting policy concerning the role of attendance in determining grades for their classes. It is the responsibility of the students to learn and comply with the policies set for each class in which they are registered.

The Graduate School

THE GRADUATE SCHOOL

Eric G. Bolen, *dean*

The Graduate School at The University of North Carolina at Wilmington administers programs of study leading to the Master of Business Administration degree, the Master of Education degree, the Master of Arts in Teaching degree, the Master of Science degree in biology, chemistry, geology, mathematics, and marine biology, and the Master of Arts degree in English, history, and mathematics.

Each of these programs provides capable students with an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development. Fuller descriptions of these programs appear separately in the following pages.

ADMISSIONS: MASTER'S DEGREE PROGRAM

GENERAL ADMISSIONS REQUIREMENTS

For admission to a graduate degree program at The University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. For information on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT) contact the University Student Development Center. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking, or have taken, graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNCW.

Applications for admission to most graduate degree programs should be filed in the Graduate School at least sixty (60) days in advance of the term in which admission is sought; some programs require earlier deadlines. If admitted applicants do not register for the term specified in this application, their admission will be subject to review at a later date. A student who leaves the university and who does not register for at least one semester must apply for readmission to the Graduate School.

Each student admitted to a graduate degree program must have a completed medical report form on file at UNCW before initial registration may be effective. In addition, an immunization record for each newly admitted UNCW graduate student, regardless of status, is required by law to be on file at UNCW prior to enrollment.

Graduate students are subject to the same university policies and regulations as undergraduates unless otherwise stated.

Specific admission requirements are listed under each master's degree program.

NON-DEGREE STUDENTS (Special Graduate Status)

In some cases, students who are not seeking a graduate degree maybe permitted to take graduate courses. Such permission to take graduate courses does not constitute admission to a graduate degree program. Non-degree graduate students are not candidates for degrees. Enrollment must be maintained in at least one graduate course each semester. The undergraduate grade-point average for non-degree graduate students are expected

o meet the same standards that apply to the admission of graduate students in full standing. Students that are later accepted to a degree program may, with approval, have up to 10 hours applied toward the degree. Normally, non-degree status is not available and does not apply to students interested in taking courses in the Cameron School of Business Administration. Any individual having an interest in applying for admission as a non-degree graduate student should contact the Graduate School.

ADMISSIONS - INTERNATIONAL STUDENTS

International students must present evidence of their ability to speak, read, and write the English language and to meet fully the financial obligations associated with their study at the university. Students from foreign countries where English is not the primary language must present the results of the TOEFL examination (Test of English as a Foreign Language) as a part of their application for admission. A minimum score of 550 is required for admission to all programs, but this score does not guarantee acceptance. A financial responsibility statement and proof of accident and hospital insurance must also be submitted.

RE-ENROLLING

A student who leaves the university and who does not register for at least one semester (fall or spring, no applicable for summer) must apply for readmission to the Graduate School. The re-enrollment forms are available in the Graduate School. No fee is required.

COOPERATIVE PH.D. PROGRAM IN MARINE SCIENCE

The Graduate School at UNCW cooperates with North Carolina State University in a joint program leading to a Ph.D. in Marine Science. The degree is awarded by the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University and features opportunities for completing some course work and the dissertation research at UNCW. At UNCW, faculty in chemistry, geology, and the biological sciences participate in the program. Marine science students complete a major and minor field of study and are expected to be familiar with areas of marine science other than their own. Students applying for the program must have previously earned a master's degree in an appropriate natural science at UNCW or other accredited institution.

Specific requirements include: after admission to the program, 15 hours of graduate course work must be completed at NCSU before a student takes the preliminary (qualifying) examination. The examination, which includes written and oral components covering the major and minor areas, shall be conducted at NCSU. At least nine hours of course work shall be completed in residence at UNCW. Each student shall complete three core courses from related areas of marine science; the areas are biological oceanography, chemical oceanography, geological oceanography and physical oceanography. Specific requirements vary with each student's program, but doctoral programs normally require 27 to 36 hours of course work, excluding research and dissertation credits, beyond the master's degree. Residence requirements must be fulfilled by completing 18 credit hours of continuous registration at NCSU. A research-based dissertation in the major area of specialization must be completed and approved, including a successful oral defense of the work. Students are allowed a maximum of six calendar years after admission to attain candidacy and a maximum of ten calendar years to complete all degree requirements.

Students interested in this program should contact the Graduate School at UNCW for application materials.

NONDISCRIMINATION POLICY

UNCW is dedicated to equality of opportunity within its community. Accordingly, UNCW does not practice nor condone discrimination in any form against students, employees or applicants on the grounds of race, color, national origin, religion, sex, age, handicap or veteran status. UNCW commits itself to positive action to secure equal opportunit regardless of those characteristics. For additional information, contact the compliance officer.

Any student who supplies false or misleading information or who conceals pertinen facts in order to enroll in The University of North Carolina at Wilmington will be subject to immediate dismissal from the university.

Application forms and other admissions information may be obtained by writing t the Graduate School, The University of North Carolina at Wilmington, Wilmington, North Carolina 28403-3297.

DEPARTMENT AND PREREQUISITE ABBREVIATIONS

The following standard list of abbreviations will be used for stating department and prerequisite abbreviations.

Accountancy	ACG
Anthropology	ANT
Biology	BIO
Biology Lab	BIOL
Business Law	BLA
Chemistry	CHM
Chemistry Lab	CHML
Computer Science	CSC
Economics	ECN
Education	EDN
English	ENG
Finance	FIN
Geology	GLY
History	HST
Management	MGT
Marketing	MKT
Mathematics	MAT
Statistics	STT
Production and Decision Sciences	PDS

THE COLLEGE OF ARTS AND SCIENCES

Graduate programs in the College of Arts and Sciences lead to either a Master of Arts or a Master of Science degree. In addition, specialized curricula are offered jointly by the College of Arts and Sciences and the School of Education for professional educators leading to the Master of Arts in Teaching degree. All programs in the college are designed to enhance the intellectual ability, maturity, and independence of the master's student, thereby preparing students for careers in business, industry, government, teaching, or for further study at the doctoral level.

MASTER OF SCIENCE IN BIOLOGY AND MARINE BIOLOGY

The Department of Biological Sciences offers programs of study leading to a Master of Science degree in biology and a Master of Science degree in marine biology. The programs are designed (1) to prepare students for further graduate work leading to the Ph.D.; (2) to provide professional biologists with advanced research and education opportunities; (3) to prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; (4) to provide students with a broad-based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department; or (5) to provide opportunities for secondary school teachers wishing to pursue a graduate education including a teacher certification option.

Admission Requirements

Applicants seeking admission to the graduate program in biology or marine biology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced biology)
4. Three recommendations by individuals in professionally relevant fields

Satisfactory scores on the Graduate Record Examination — verbal plus quantitative (a minimum score of 1000) and advanced biology (a score of 600), — a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for graduate admission.

Degree Requirements

1. The program requires 30 semester hours of graduate study.
2. Six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better.
3. A minimum of 24 semester hours of graduate study must be completed in residence.
4. No more than six hours of graduate level courses offered by other science departments at UNCW may be applied toward the degree.
5. No more than 10 credit hours from those courses crosslisted as 400/500 may be applied toward the degree. Undergraduate courses taken to make up deficiencies will not count toward the 30 hours required.

6. All deficiencies must be remedied prior to graduation.
7. The student must successfully complete a written qualifying examination based on prior coursework and an oral defense of the thesis. The qualifying examination normally will be taken during the student's final semester in residence.
8. Each student will present a thesis, based on original research, acceptable to the committee, prior to graduation.
9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study.

Master of Science in Biology

No specific tracks will be offered. Each student will be expected to devise an individual program of study designed to complement the thesis research in consultation with the graduate thesis committee.

Required courses:
BIO 501 Introduction to Scientific Research and Presentation (1)
BIO 593 Colloquium (1)
BIO 595 Seminar (1)
BIO 599 Thesis (3-6)

Master of Science in Marine Biology

The curriculum of the program allows students to elect one of three tracks: marine biology, biological oceanography, or coastal biology. Within each track, a student and his/her graduate thesis committee have the necessary latitude to develop a plan of study that will meet the particular needs of the individual.

Requirements for the marine biology track:
A minimum of six hours from the following:
BIO 560 Estuarine Biology (3)
BIO 562 Coastal Ecosystems (3)
BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)
and:
BIO 501 Introduction to Scientific Research and Presentation (1)
BIO 593 Colloquium (1)
BIO 595 Seminar (1)
BIO 599 Thesis (3-6)

A minimum of 15 hours of electives of which at least 12 hours must be in biology courses. No more than three credits of BIO 591 (Directed Independent Study) may be used.

Requirements for the biological oceanography track:
BIO 501 Introduction to Scientific Research and Presentation (1)
BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)
BIO 593 Colloquium (1)
BIO 595 Seminar (1)
BIO 596 Seminar at Sea (1)
BIO 599 Thesis (3-6)

A minimum of 14 hours of electives of which at least nine hours must be in biology courses. No more than three credits of BIO 591 (Directed Independent Study) may be used.

equirements for the coastal biology track:

O 501 Introduction to Scientific Research and Presentation (1)
O 560 Estuarine Biology (3)
O 562 Coastal Ecosystems (3)
O 592 Seminar at the Coast (1)
O 593 Colloquium (1)
O 595 Seminar (1)
O 599 Thesis (3-6)

A minimum of 14 hours of electives of which at least nine hours must be in biology ourses. No more than three credits of BIO 591 (Directed Independent Study) may be sed.

GRADUATE PROGRAM IN BIOLOGICAL SCIENCES

Course Descriptions

IO 501. Introduction to Scientific Research and Presentation (1) Scientific manuscript preparation and communication techniques: manuscript format, graphics, design of experiments, library use, and writing techniques. One lecture and one laboratory hour each week.

O 512. (410) Electron Microscopy and Cell Ultra Structure (3) Prerequisite: Course in cell physiology or permission of instructor. A discussion of the general and specialized techniques of transmission and scanning electron microscopy and their application to the elucidation of the structure and function of cell organelles in plants and animals.

OL 512. (BIOL 410) Electron Microscopy Laboratory (1) Corequisite: BIO 512 and permission of instructor. Techniques for fixing, embedding and thin sectioning of tissue will be demonstrated. Students will prepare a material of choice for observation and analysis and examine the prepared material with the electron microscope.

O 515. Membrane and Neurobiology (4) Prerequisite: Course in physiology or permission of instructor. Introduction to the principles of diffusion, osmosis, active transport, and membrane biophysics with emphasis on cellular and whole animal ionic and osmotic regulation, and neurophysiology. Emphasis will be placed on marine invertebrates and vertebrates. The laboratory will give experience in ion measurements, radioisotope handling, flux studies, and neurophysiological techniques. Three lecture and three laboratory hours each week.

) 519. Advanced Topics in Cellular and Molecular Biology (2-4) Prerequisite: Upper-level undergraduate or graduate course work in cellular and molecular biology or permission of the instructor. In depth study of selected topics in cellular and molecular biology. Examples are: the cytoskeleton and its components, the dynamics of membrane structure and function, the metabolism of nitrogenous compounds, the control of gene expression, or the biology of extrachromosomal DNA. Lecture and laboratory.

520. (415) Vertebrate Histology (4) Prerequisite: Credit in biology. An introduction to the cytology and morphology of vertebrate cells and tissues, including examination

of the four major histological tissues: epithelium, connective tissue, muscle, ar nerve. Other topics include the techniques and instrumentation of light microscop and selected methods of sectioning, fixation, and staining of tissues. Student proje required. Three lecture and three laboratory hours each week.

BIO 524. (425) Microbiology (4) Prerequisite: Permission of instructor. Study of no pathogenic and pathogenic microorganisms with emphasis on the biology of virus and bacteria. Laboratory sessions include the techniques required to identify, cultur and stain selected microorganisms. Three lecture and three laboratory hou each week.

BIO 525. Marine Microbiology (4) Prerequisite: Course in microbiology or permissio of instructor. Concepts of structure and function of microbes and their nutritio metabolism adaptation and genetics, as related to the marine environment. Th laboratory will center on techniques of studying microbes and their ecology, and th systematics of important microorganisms. Three lecture and three laboratory hou each week.

BIO 526. Advanced Topics in Microbiology (2-4) Prerequisite: Microbiology and organ chemistry or permission of instructor. Advanced coverage of the taxonomy, morpho ogy, metabolism, genetics and ecology of microorganisms. Emphasis will be place on the current microbiological literature. Lecture and laboratory.

BIO 529. (430) (ANT 430) Evolutionary Biology (3) Prerequisite: BIO 335. Advance survey of organizational principles of the genetic apparatus of prokaryotes ar eukaryotes. Emphasis of the course directed to critical evaluation of current co cepts and models of evolutionary dynamics using relevant illustrative examples fro the literature.

BIO 530. Invertebrate Evolution (3) Prerequisite: Basic course in invertebrate biolo or permission of instructor. Critical analysis of current theories on the origin the invertebrates and on origins of invertebrate phyla. The course will include review of the historical development of evolutionary thought concerning invertebra phylogeny, both from a neontological and paleontological viewpoint. Relevant da from modern studies in embryology, larval development, comparative morpholog functional morphology, and serology will be stressed. Each student will be require to prepare a summary paper on the status of knowledge for a selected invertebra group.

BIO 531. Population Genetics (3) Prerequisite: Genetics. Basic principles of the dynar ics of genes within populations. Topics include fitness, polymorphism, gene equilibrium, and the effects of non-random mating and selection.

BIO 534. (466) Advanced Ecology (4) Prerequisite: Ecology. Advanced topics in ecosy tem energetics, population dynamics, and community ecology. Emphasis on tea teaching and student research. Two lecture and four laboratory hours each wee

BIO 535. (435) Molecular Genetics (3) Prerequisite: A course in genetics, biochemist or cell physiology. An overview of current understanding of the nature, function, a control of genes. Topics include the nature of genetic information; the sequen organization and packaging of the eucaryotic genome; DNA, RNA, and prote

systhesis; recombinant DNA technology; RNA processing; transposable genetic elements; and antibody diversity synthesis and function.

BIO 536. (436) Recombinant DNA Techniques (2) Prerequisite: A course either in genetics, physiology, or biochemistry. Basic principles and techniques of gene cloning using all three major types of cloning vectors: lambda phage, plasmids, and the single stranded DNA phage M13. Provides hands-on experience in recombinant DNA methodology. One lecture and four laboratory hours each week.

BIO 537. (457) Ichthyology (4) The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

BIO 538. Cytogenetic Methodology (2) A laboratory course introducing the techniques necessary to study and analyze the chromosomes of a variety of organisms including plants and animals. Four laboratory hours each week.

BIO 539. Advanced Topics in Population Biology (2-4) Prerequisite: Courses in genetics and ecology or permission of instructor. A lecture course covering the ecology, genetics, and evolution of populations. Topics include dynamics of population structure, growth, and regulation; natural selection and the maintenance of genetic variation within populations; differentiation of populations and speciation; evolution of population strategies.

BIO 540. (465) Biochemistry (3) Prerequisite: Organic chemistry. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms.

BIO 544. (440) Developmental Biology (4) Prerequisite: Genetics. Concepts of mechanism and control in development. Topics include cell lineage determination, differential gene activity, cell recognition phenomena, hormones, and environmental control of development. Plant and animal systems studied in modern research literature will be discussed. Three lecture and three laboratory hours each week.

BIO 545. (445) Marine Physiology (4) Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is placed on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion, and movement. Three lecture and three laboratory hours each week.

BIO 549. Advanced Topics in Animal Physiology (2-4) Prerequisite: Permission of instructor. Advanced study of discrete physiological subject matter in which significant new understanding has been obtained. In particular, the course will consider those emergent techniques that have permitted the application of the scientific method to particular physiological problems. Lecture and laboratory.

BIO 550. Vertebrate Systematics (4) Prerequisites: Two of the following: ornithology, herpetology, mammalogy, ichthyology. A detailed study of the processes of speciation in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures will be discussed. Three lecture and three laboratory hours each week.

BIO 551. Advanced Vertebrate Biology (2) Prerequisite: Permission of instructor. Individualized instruction in the identification, classification, and habitats of the terrestrial vertebrates of the coastal zone. This course will emphasize field methodologies and is designed to fill gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

BIO 552. (462) Deep Sea Biology (3) The biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea.

BIO 553. Natural History of Intertidal Organisms (3) Prerequisite: Basic course in invertebrate biology or permission of instructor. A study of the strategies adopted by major invertebrate groups inhabiting the intertidal zone. Field trips permit the students to observe and identify relationships between vertical ranges of intertidal organisms and local biological and physical parameters that define zonation. An individual or group project on some aspect of recruitment, site preference, succession, or competition in intertidal populations will be required. Two lecture hours and field work.

BIO 554. (452) Mammalogy (4) A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions will include collection, identification, and preparation of specimens and observations of mammals in the field. Three lectures and three laboratory hours each week.

BIO 556. (456) Ornithology (4) An introduction to the life of birds. Emphasis will be on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

BIO 557. (454) Herpetology (4) A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Three lecture and three laboratory hours each week.

BIO 558. Biology of Recreational and Commercial Fishes (3) Prerequisite: Basic course in ichthyology or permission of the instructor. Topics will broaden the student's knowledge of management of economically and socially important aquatic resources through discussions on ecology and fisheries oceanography, aquaculture, fish diseases, and contemporary research. The emphasis will be upon fishes, but the course will include information on shrimp, molluscs, whales, and other marine species. Two lecture and three laboratory periods each week.

BIO 559. (481) Marine Invertebrate Zoology (4) A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

BIO 560. Estuarine Biology (3) Prerequisite: Course in general ecology or permission of instructor. A study of the physical, chemical, and biological interactions within estuaries, emphasizing nutrient cycles and energy flows in estuarine ecosystems. Two lecture and three laboratory hours each week.

BIO 561. Barrier-Island Ecology (3) Prerequisite: Course in general ecology or permission of instructor. A survey of the dune forest and tidal marsh flora and vegetation. Topics will include descriptive, physiological, and applied aspects of barrier-island plants. Special topics include dune environment, halophytes, salt-spray effects, marsh energetics, and nutrient cycling. Quantitative techniques will be used in characterization of island communities. Two lecture and three laboratory hours each week.

BIO 562. Coastal Ecosystems (3) Prerequisite: Course in general ecology or permission of instructor. Ecology of the major plant communities on the Coastal Plain. Systematics, structure, and functions of the coastal community will be emphasized. Biotic and environmental sampling and comparison techniques will be emphasized. Two lecture and four laboratory hours each week.

BIO 563. Physical Oceanography (4) Dynamics and physics of the ocean with emphases on the physical properties of sea water, flow dynamics, and circulation. The laboratory will emphasize instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

BIO 564. Biological Oceanography (3) Encompasses a spectrum of special topics on factors that control the distribution patterns of marine organisms. The topics include: identification and evolution of marine biomes; seasonal, temporal, and spatial trends in temperate marine environment; tropical vs. polar marine productivity; temperature of water masses and biological implications with emphasis on gulf stream biology; pelagic and benthic community structure; marine food chain and trophodynamics; models of energy flow and budgets; biology of outer continental shelf; recruitment mechanisms as influenced by natural and man-made causes. Special emphasis will be placed on methods of data gathering and theories behind advanced biological oceanographic techniques. Each student will specialize in a selected topic and will present a report at the end of the term.

BIO 565. (458) Fisheries Biology (4) Prerequisite: Ichthyology, one course in statistics, and consent of instructor. Advanced studies in the biology of fishes. Such topics as age, growth, foods, parasites, population dynamics, reproduction, and economic pressure are covered. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

BIO 566. Behavioral Ecology of Reef Fishes (3) Prerequisite: Course in ichthyology or permission of instructor. An ecological and ethological approach to the study of reef-fish biology. Current theories and problems dealing with the ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

BIO 567. (460) Limnology (4) Prerequisite: A laboratory course in inorganic chemistry or permission of instructor. An examination of the physical, chemical, and biological characteristics of freshwater systems, particularly lakes, with an emphasis on the interrelationship of these characteristics. Three lecture and three laboratory hours each week.

BIO 569. Advanced Oceanography (3) Prerequisite: A descriptive oceanography course. This course will consider mechanisms and dynamics of the ocean; the physical processes propelling oceanic currents, the reception and transmission of energy, and its influence upon living systems, statics and dynamics of waves, chemical distribution in the sea and their influence upon living marine organisms, dynamics of fertility, and productivity in the marine environment. Two lecture and three laboratory hours each week.

BIO 570. (468) Planktonology (4) Prerequisite: Invertebrate zoology or consent of instructor. The classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

BIO 571. (446) Phycology (4) Prerequisite: BIO 205. An introductory survey of algal groups including benthic planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

BIO 572. (472) Marine Phycology (4) An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

BIO 573. (477) Mycology (4) Prerequisite: BIO 205 and 207. Taxonomy, morphology, and ecology of fungi with emphasis on fungal evolution and the importance of fungi to humans. Fungi as casual agents of both plant and animal diseases also will be discussed. Three lecture and three laboratory hours each week.

BIO 574. (475) Plant Taxonomy (4) Prerequisite: Introductory botany. An introduction to identification, classification, and nomenclature of vascular plants with emphasis on the flora of Southeastern North Carolina. Two lecture and four laboratory hours each week.

BIO 575. Taxonomy of Aquatic and Wetland Plants (3) Prerequisite: Introductory plant taxonomy or permission of instructor. Discussion, collection, and identification of vascular plants found in the aquatic and wetland habitats of coastal North Carolina. Extensive field work and individualized instruction in collection and identification techniques. Two lecture and three laboratory hours each week.

BIO 576. (474) Comparative Morphology of Vascular Plants (4) A detailed study of the major groups of vascular plants with emphasis on structure, life histories, development, and phylogeny. Three lecture and three laboratory hours each week.

BIO 577. Marine and Estuarine Mycology (3) Prerequisite: Mycology or permission of instructor. An in-depth survey of the mycoflora of oceanic and estuarine waters with emphasis on collecting and culturing techniques. An in-depth treatment of taxonomy and ecology of important fungal groups also will be given. Two lecture and three laboratory hours each week.

BIO 579. Advanced Topics in Organismic Biology (2-4) Prerequisite: Permission of instructor. Advanced study of the ecology, natural history, behavior, or systematics of selected groups of organisms. Lecture and laboratory.

BIO 580. (480) Field Studies in Biology (1-6) A research experience-oriented field course offered in selected regional locales. Emphasis is placed on distribution, taxonomy, and ecology of animal and/or plant organisms.

BIO 585. (485) Special Topics in Advanced Biology (1-6) Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

BIO 591. Directed Independent Study (3)

BIO 592. Seminar at the Coast (1) Participation in planning and conducting a series of field exercises in the coastal zone of North Carolina.

BIO 593. Colloquium (1) Investigation and discussion of selected topics and current issues through the interaction of students, faculty, and expert guest lecturers.

BIO 594. Practicum in College Biology Teaching (2) An introduction to theory, research, and practice in college biology teaching. Combines supervised internship in introductory biology with formal classroom instruction. For graduate students who have been awarded teaching assistantships in the Department of Biological Sciences and others with permission of instructor.

BIO 595. Seminar (1) Discussion of selected topics in biology.

BIO 596. Seminar at Sea (1) Participation in pre-cruise planning and a biological oceanography cruise to obtain practical knowledge on methods of sampling.

BIO 599. Thesis (1-6)

MASTER OF SCIENCE IN CHEMISTRY

The Department of Chemistry offers a program of study leading to the Master of Science degree in chemistry. The objectives of this program are to give students who have an undergraduate foundation in chemistry the opportunity to engage in advanced course work, in-depth study, and independent research, in order to acquire the skills of assimilating known information and generating new knowledge. These problem-solving skills will provide the foundation for future contributions by the graduates in various areas of chemistry, whether they seek employment directly or choose to undertake further graduate study elsewhere.

Admission Requirements

Applicants seeking admission to the graduate program in chemistry are required to submit the following to the Graduate School:

1. An official application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative and advanced chemistry)
4. Three recommendations by individuals in professionally relevant fields

A minimum score of 1000 on the Graduate Record Examination (verbal and quantitative) is expected. Scores on the Advanced Chemistry portion of the Graduate Record Examination will be used for diagnostic purposes. A bachelor's degree with a concentration in chemistry from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, along with a "B" average or better in chemistry courses. Admission decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. Programs leading to the Master of Science degree require a minimum of 30 semester hours of graduate study. Up to six credit hours of graduate courses in other natural and mathematical sciences may be approved by the student's advisory committee. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.

2. Deficiencies in a student's undergraduate preparation will be ascertained by a committee of faculty members in the Department of Chemistry. Placement tests in the basic areas of chemistry may be administered to incoming students at the discretion of the faculty committee to assist with evaluation of deficiencies. Any deficiencies must be remedied prior to graduation.

3. The student must successfully complete a written and an oral comprehensive exam.

4. The student must demonstrate computer proficiency.

5. A thesis reporting the results of the student's original research project must be submitted and approved by the student's advisory committee. An oral defense of the thesis will be required. Each student will present a seminar on his or her research project.

6. The program shall be completed within five years of the date of first registration for graduate study.

equired Courses

HM 501 Introduction to Chemical Research (1)
HM 595 Graduate Seminar (1)
HM 599 Thesis (6)
d at least two of the following courses:
HM 516 Advanced Chemical Synthesis (3)
HM 536 Spectroscopy (3)
HM 521 Thermodynamics (3) or CHM 522 Rates and Mechanisms (3)

GRADUATE PROGRAM IN CHEMISTRY

Course Descriptions

HM 501. Introduction to Chemical Research (1) Scientific proposal and manuscript preparation. Communication techniques. Experimental design and data analysis. Computer applications. Library use. Laboratory safety. Two hours each week.

HM 515. (415) Advanced Organic Chemistry (3) Prerequisite: Two semesters of organic chemistry. Theoretical and physical organic chemistry, including chemical bonding, stereochemistry, and conformational analysis with applications to selected reaction mechanisms.

HM 516. Advanced Chemical Synthesis (3) Prerequisite: Inorganic chemistry and two semesters of organic chemistry, or permission of instructor. Modern organic and inorganic synthesis with emphasis on carbanion and free radical intermediates. Synthesis and use of organometallic compounds. Chemical oxidations and reductions. Formation of ring systems.

HM 517. (417) Medicinal Chemistry (3) Prerequisite: Two semesters of organic chemistry. Systematic study of the chemistry and biological activity of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents.

HM 521. Chemical Thermodynamics (3) Prerequisite: Physical chemistry, including chemical thermodynamics. Basic concepts and principles of chemical thermodynamics as derived from the Laws of Thermodynamics. Applications of thermodynamic principles to chemical and phase equilibria, solutions of electrolytes, and electrochemistry.

HM 522. Rates and Mechanisms (3) Prerequisite: Physical chemistry. Chemical kinetics and reaction mechanisms. Transition state and collision theories. Catalysis.

HM 535. (435) Advanced Analytical Chemistry (2) Prerequisites: Physical chemistry and quantitative analysis or analytical chemistry. Theory of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (CHML 535).

HML 535. (CHML 435) Advanced Analytical Chemistry Laboratory (2) Prerequisite or corequisite: CHM 535. Applications of modern analytical instrumentation and techniques. Four laboratory hours each week.

CHM 536. Spectroscopy (3) Prerequisite: Organic chemistry. Fundamentals of interacti of electromagnetic radiation with matter. Principles and applications of vibration electronic, multinuclear magnetic resonance, electron spin resonance, Raman, x-r and gamma ray spectroscopic methods.

CHM 546. (446) Advanced Inorganic Chemistry (3) Prerequisite: A physical chemistry bas course in inorganic chemistry. Advanced topics in theoretical inorganic chemistry.

CHM 565. (465) Biochemistry (3) Prerequisites: Physical chemistry and two semesters organic chemistry. Study of the physical structures of carbohydrates, lipids, ami acids, proteins, nucleic acids, vitamins and minerals, and the chemical princip governing their biological activity. Special emphasis will be given to enzyme kinetic solution properties of macromolecules, and the thermodynamic principles of int mediary metabolism.

CHML 565. (CHML 465) Biochemical Techniques and Instrumentation (1) Prerequis or corequisite: Biochemistry. Theory and practice of biochemical technique including buffer and reagent preparation, protein assay, protein purificatio electrophoresis, enzyme kinetics, tryptic peptide digestion, membrane vesic construction, DNA isolation, and radioisotope detection. Three laboratory hou each week.

CHM 575. (475) Chemical Oceanography (3) Prerequisite: General chemistry. An ocea ography course is recommended. Sources, distribution, forms of occurrence, a reactions of chemical species in sea water. Estuarine reactions, air-sea water a sediment-sea water reactions, and human impact on the oceans.

CHM 576. (476) Chemical Analysis of Natural Waters (2) Prerequisite: Permission instructor. Chemical analysis of natural waters, including river water, lake wat ground water, rain water, and sea water. Analytical methods will be evaluated w respect to appropriate applications. Analyses include salinity, chloride, dissolv oxygen and oxygen demand, pH and alkalinity, nutrients, chlorophyll, suspend material, and dissolved metals. One lecture and three laboratory hours each wee

CHM 585. (485) Industrial and Polymer Chemistry (3) Prerequisites: Physical chemis and two semesters of organic chemistry. Properties, synthesis, and reactions major industrial chemicals; synthetic plastics, polyesters, polyamides, and rubbe soaps and detergents; petrochemicals; paints and pigments; dyes; explosives; pu and paper; pharmaceutical and nuclear industries; mechanism of polymerizati copolymerization; physical and chemical properties of polymers; polymer chara terization; advances in polymer technology.

CHM 591. Directed Individual Study (1-3) Chemical research not related to thesis wo

CHM 592. Special Topics (1-3) Study of a topic or technique in chemistry not covered regular courses. May be repeated for credit.

CHM 595. Graduate Seminar (1) Discussion by students, faculty, and guest lecturers research ideas and/or research results. May be repeated one time for credit

CHM 599. Thesis (1-6) Laboratory research for thesis and thesis preparation.

MASTER OF ARTS IN ENGLISH

The Department of English offers a program of study leading to the Master of Arts degree in English. Students, in consultation with their advisors, tailor their course schedules to their own career objectives and interests, selecting a variety of courses in literature, language, rhetoric and composition, and professional writing.

This program is designed for those who wish to become more professionally competent as writers, editors or writing consultants in business, industry, or government, those planning to teach English on all levels, those intending to pursue doctoral study in English, and those with a keen interest in contemporary approaches to literary texts, literary theory, and composition theory.

Admission Requirements

Applicants seeking admission to the graduate program in English are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (no more than five years old)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination, a satisfactory response to the essay question attached to the application form, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and a strong overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for admission.

The deadline for receiving applications is June 1 for the fall semester and November 1 for the spring semester. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, including ENG 501, Introduction to Research Methods in English, and ENG 502, Introduction to Literary and Writing Theory. At least 24 semester hours must be completed in residence at UNCW.

2. A maximum of six semester hours may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better.

3. A written comprehensive examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

4. The student will present and defend a thesis, acceptable to the student's graduate advisory committee, prior to graduation. The thesis defense will be open to the public.

5. Students must complete the program within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN ENGLISH

Course Descriptions

ENG 501. Introduction to Research Methods in English (3) Analysis of the content of English studies, stressing bibliographic tools and the aims and methods of literary and writing research.

ENG 502. Introduction to Literary and Writing Theory (3) Analysis of the philosophi cal, historical, and social foundations of literary and writing theory. Emphasis o problems of meaning, interpretation, and evaluation. Examination of relevant critica figures and schools in historical context.

ENG 504. (430) The Age of Chaucer (3) Prerequisite: ENG 211 and junior or senior stand ing. A survey of works written in medieval England. Included are The Canterbur Tales, selections from Chaucer's other works, and representative works in suc genres as chronicle, biography, epic, romance, dream vision, and drama.

ENG 505. (431) The Age of Elizabeth (3) Prerequisite: ENG 211 and junior or senio standing. English literature in the sixteenth and early seventeenth centuries. Work studied include poetry by Spenser and Shakespeare, plays by Marlowe and Jonson and prose by More and Sidney.

ENG 506. (432) The Age of Milton (3) Prerequisite: ENG 211 and junior or senior stand ing. Emphasis on the works of Milton. Also includes works by Donne, Herbert and Bacon.

ENG 507. (462) Studies in the Novella (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. Types of the novella or short novel, wit emphasis upon its distinctive features and development as a genre.

ENG 508. (463) Studies in Non-Fiction (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. Types of non-fiction prose, including biography, autobiography, memoirs, journals, and various forms of essay. Work from a variety of periods, authors, and traditions.

ENG 509. (490) Special Topics in Literature (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. The study of a selected theme movement, period, influence, or genre. Content varies from semester to semester May be repeated once under a different subtitle.

ENG 510. Folklore (3) Study of the theory and history of folklore, customary modes o behavior, informal systems of communication, and the theory and practice of folklore collecting. Fieldwork project required.

ENG 520. Linguistics (3) Study of diverse aspects of human language, with particu lar attention to American English. Topics include analysis of principles of sound formation, syntax, and meaning; sociolinguistics and psycholinguistics; language acquisition and development in children.

ENG 522. History of the English Language (3) Study of the development of the English language from Old English to contemporary American dialects. Includes study o cultural, political, and linguistic factors affecting language change.

ENG 523. Modern English Grammar (3) Study of the structure of the English language using modern methods of analysis.

NG 524. Semantics and the English Language (3) Study of the effect of language upon thought and behavior. Particular attention is paid to practical applications of semantic theory.

NG 525. Seminar in Linguistics (3) In-depth study of a topic in linguistics. May be repeated for credit under different subtitle.

NG 530. Creative Writing (3) Writing instruction in four genres: essay, poetry, fiction, and drama. Comparison of techniques in the genres and analysis of work by students and professional authors.

NG 542. Poetry Writing (3) Instruction in writing poetry, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

NG 544. Fiction Writing (3) Instruction in writing short fiction, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

NG 550. Workshop in Advanced Writing (3) Prerequisite: Consent of instructor. Intensive work, on an advanced level, in a specific area of writing. Topics may include Essay Writing, Technical Writing, Magazine Writing, Writing for Publication in Professional Journals, or Journalism. May be repeated for credit under different subtitle.

NG 552. Theories of Composition (3) Analysis of theories related to the composing process, including the social and psychological nature of writing. Critique of research and a review of critical studies.

NG 553. Advanced Studies in Composition (3) Prerequisite: completion of ENG 552 or consent of instructor. Advanced study of a topic in composition. Topics vary; typical offerings could include History of Rhetoric, the work of one or more theorists, or Theories of Reading and Writing. May be repeated for credit under different subtitle.

NG 560. Topics in British Literature (3) Study of major periods in British literature. Periods may include Old and Middle English Literature, British Literature of the Renaissance, Restoration and Eighteenth-Century British Literature, Nineteenth-Century British Literature, Twentieth-Century British Prose, or Twentieth-Century British Poetry. May be repeated for credit under different subtitle.

NG 561. Topics in American Literature (3) Study of major periods in American literature. Periods may include American Literature to 1865, American Literature from 1865 to 1914, American Literature from 1914 to 1945, or American Literature Since 1945. May be repeated for credit under different subtitle.

NG 563. Topics in World Literature (3) Study of major traditions in World Literature. Topics may include European Literature or Third World Literature. May be repeated for credit under different subtitle.

ENG 571. Literature for Adolescents (3) A reading course in the literature of selected writers who emphasize distinctive roles, experiences, feelings, and problems o adolescence. Special emphasis given to evaluating the literature studied in terms of its aesthetic appeal and its cultural significance.

ENG 572. Literary Criticism: The Major Statements (3) An historical and analytical survey of influential approaches to the study of literature, from Plato and Aristotle to Matthew Arnold, T.S. Eliot, and Stanley Fish, with attention to practical application.

ENG 580. Special Studies in Literature (3) Intensive examination of a special area o literary study. May be repeated for credit under different subtitle.

ENG 591. Directed Independent Study (3)

ENG 599. Thesis (1-6)

MASTER OF SCIENCE IN GEOLOGY

The Department of Earth Sciences offers a program of study leading to the Master of Science degree in geology. The specific goals of the program are to provide advanced research and educational opportunities in the geological sciences, and to prepare geologists for solving contemporary problems in sedimentary geology. Specific objectives of the program are: 1) to develop research competence in sedimentary geology, 2) to develop professional competence in the assessment of potential water, energy and mineral resources, 3) to develop a level of research competence in geology that encourages continued effort toward the doctoral degree, and 4) to provide the scientific community with meaningful research data on marine, coastal, and coastal plains geology.

Admission Requirements

Applicants seeking admission to the graduate program in geology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced geology)
4. Three recommendations by individuals in professionally relevant fields

Students seeking admission to the graduate program in geology must hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program, have a strong overall academic record with a "B" average on the basic courses prerequisite to geology, and a score of 1000 or more on the Graduate Record Examination (verbal and quantitative). We accept students to our program who hold bachelor's degrees in any of the biological, physical, or mathematical sciences. All students must have completed course work in mineralogy, petrology, invertebrate paleontology, stratigraphy, structural geology, an approved summer field course in geology, and two semesters each of chemistry, physics, and calculus. Upon entrance into the master's program, the department's graduate coordinator ascertains deficiencies and recommends remedies. All deficiencies must be removed before a student is accepted as a candidate for the degree.

Degree Requirements

1. The program requires at least 30 semester hours of graduate credit, with a maximum of six credit hours for the thesis and three credit hours for seminars. A maximum of six semester hours of graduate credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate courses must be completed at UNCW including both course work and thesis. At least 18 semester hours must be completed in geology.

2. Each student must successfully complete a comprehensive qualifying oral examination that is administered no earlier than the semester the student is enrolled in final course work.

3. Each student must complete an approved course of study within five years of the date of first registration for graduate study.

4. Each student must present and defend a thesis, based on original research, acceptable to the committee, prior to graduation. The thesis defense is open to the public.

GRADUATE PROGRAM IN GEOLOGY

Course Descriptions

GLY 510. Ancient Sedimentary Environments (3) Prerequisite: Petrology, stratigraphy, field camp. Survey of ancient sedimentary environments with an evaluation of the criteria used in their recognition in the rock record. Specific ancient sedimentary sequences are examined and compared to their modern counterparts. Field trips.

GLY 511. Clastic Petrology (3) Prerequisite: Optical mineralogy. Classification and description of sandstones and mudrocks and evaluation of their diagenesis. Application of principles to economic deposits. Laboratory exercises concentrate on microscopic and X-ray techniques of analysis. Two lecture and three laboratory hours per week. Field trips.

GLY 512. Carbonate Petrology (3) Prerequisite: Optical mineralogy. Ancient carbonate rocks and modern carbonate depositional environments. Evaluation of the diagenetic processes of cementation, dolomitization and silicification, and the relationship of carbonate rocks to economic deposits. Two lecture and three laboratory hours per week. Field trips.

GLY 515. Methods of Sedimentology (3) Prerequisite: Petrology. A survey of the parameters of sedimentation. Emphasis on the processes involved in the formation of sedimentary rocks, including their origin, transport, deposition and lithification [of rock-forming minerals]. Techniques of physical and chemical analyses of sediments are stressed. One lecture and six laboratory hours per week. Field trips.

GLY 531. Micropaleontology (4) Prerequisite: Invertebrate paleontology or consent of instructor. Paleobiology and geological history of microorganisms, emphasizing the classification and systematics of major microfossil groups. Three lecture and three laboratory hours per week. Field trips.

GLY 532. Biogeography (3) Prerequisite: Consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic, and evolutionary events in the past.

GLY 533. Paleoecology (3) Prerequisite: Invertebrate paleontology or consent of instructor. Principles of ecological faunal analysis as primarily applied to the marine fossil record. Emphasizes the integration of form and function, taphonomy, and community development through time, and sedimentology/stratigraphy as a synthetic approach to paleoenvironmental, paleobiological and evolutionary analyses. Applications to biostratigraphy are considered. Field trips.

GLY 535. Stratigraphic Paleontology (3) Prerequisite: Invertebrate paleontology, stratigraphy. Analysis of the stratigraphic distribution of invertebrates emphasizing the Cretaceous and Cenozoic fossil records; application of biostratigraphic principles and techniques in the development of high-resolution relative time scales; practical experience in the stratigraphic aspects of paleontology through field, laboratory and literature research. Two lecture and three laboratory hours per week. Field trips.

GLY 540. Regional Geology of North America (3) Prerequisite: Structural geology, stratigraphy. Survey of the rocks, structures, natural resources, and tectonic histories of different regions of North America, such as the Precambrian shield, Appalachians, and Cordillera. Syntheses of theories of orogenesis.

GLY 542. Structural Evolution of Continental Margins (3) Prerequisite: Structural geology, stratigraphy. Structural characteristics and tectonic frameworks of passive and active continental margins. Comparison of modern settings and ancient analogs in the rock record.

GLY 550. Marine Geology (4) Prerequisite: Consent of instructor. Topography, sediments, structure and geologic history of the marine and estuarine environment. Three lecture and three laboratory hours per week. Field trips.

GLY 552. Coastal Sedimentary Environments (4) Prerequisite: Consent of instructor. Sedimentary processes and environments of the world's coastal systems. Emphasis on river deltas, estuaries, bays, salt marshes, barrier islands and associated inlets. Ice-bound as well as rocky coastlines also are examined. Three lecture and three laboratory hours per week.

GLY 555. Ocean Basin Sediments (3) Prerequisite: Consent of instructor. Classification and recognition of ocean-basin sediments and their spatial distribution within the sedimentary record. Additional emphasis on the effects of ocean-bottom and near bottom currents in the erosion, transport and deposition of the terrigenous and biogenic components. Techniques of physical and chemical analysis are stressed. Two lecture and three laboratory hours per week.

GLY 560. Advanced Stratigraphy (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Stratigraphic analysis of the geologic history of North America and parts of other continents. Emphasis on interpreting lithologic assemblages and stratigraphic relations in terms of modern tectonic-depositional models. Two lecture and three laboratory hours per week.

GLY 561. Coastal Plains Geology (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Origin and development of Gulf and Atlantic Coastal Plains with emphasis on stratigraphy, structure, geomorphology and tectonic history. Field trips.

GLY 563. Seismic Stratigraphy (3) Prerequisite: GLY 510 or consent of instructor. Seismic interpretation as a means of examining the stratigraphic framework of basins and continental margins. Relationships between seismic data and depositional systems. Introduction to obtaining and processing reflection data and sound propagation. One lecture and six laboratory hours per week.

GLY 571. Sedimentary Geochemistry (3) Prerequisite: one year each of chemistry, physics, and calculus. Application of geochemistry to the formation and diagenesis of sediments and sedimentary rocks. Examination of mineral precipitation, sediment cementation, metasomatism and chemical erosion.

GLY 580. Economic Mineral Deposits (3) Prerequisite: mineralogy, petrology and one year of chemistry. Description of metallic and nonmetallic mineral deposits that

characterize island arcs, spreading centers, and intracontinental areas. Magmatic, hydrothermal, and sedimentary processes of ore formation. Three lecture hours per week. Field trips.

GLY 590. Topics in Sedimentary Geology (1-3) Prerequisite: Consent of instructor. Advanced special topics in sedimentary geology through lectures, seminars, laboratory or field experience.

GLY 591. Directed Independent Study (1-3)

GLY 595. Seminar (1) Prerequisite: Consent of instructor. Discussion of selected areas in sedimentary geology. Two hours per week.

GLY 599. Thesis (1-6)

MASTER OF ARTS IN HISTORY

The Department of History offers a program of study leading to the Master of Arts degree in history. Specific goals of the program are: 1) to provide advanced research and educational opportunities in the study of history; 2) to prepare historians by training them in the latest research techniques, providing them with a knowledge of the most current research on historical problems, and 3) to direct students in historical research using historical documents and archives.

Admission Requirements

Applicants are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields.

The minimum requirements for admission to the graduate program in history include: Satisfactory scores on the Graduate Record Examination (verbal and quantitative) and advanced placement examination, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the basic courses prerequisite to the area of proposed graduate study.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, 27 of which must be in history. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. At least 24 hours of graduate study must be completed in residence.

2. A minimum of 24 semester hours of course work, including the thesis, must be in courses open only to graduate students. Courses open to seniors and graduate students will have additional requirements and different grading for graduate students.

3. Students must complete HST 500, 12 hours in the area of concentration and nine hours of electives. Six hours beyond HST 500 must be in seminars.

4. The student must successfully complete a written comprehensive examination that will be administered no earlier than during the final semester of enrollment in course work.

5. Each student will present a thesis, acceptable to the thesis committee, prior to graduation.

6. The student must pass a competency examination demonstrating satisfactory reading knowledge of a foreign language.

7. The program shall be completed within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN HISTORY

Course Descriptions

HST 500. Historiography and Methodology (3) Introduction to problems of historica research through examination of major historical works and current technique of research, evaluation of sources, development of bibliography, and quantitativ historical methods including the role of the computer in historical research. Thi course is open only to graduate students.

HST 507. (ANT 411) Advanced Field Training in Archaeology (3) Prerequisite: HS 201 or 441; graduate status, and consent of the instructor. Supervisory training fo field archaeologists. Students direct specific aspects of archaeological excavation including research design, data recovery, daily site management, and field analysis Summers.

HST 508. (ANT 412) Historical Archaeology (3) Prerequisite: HST 201 or 441 or con sent of the instructor and graduate status. Substantive investigation of the specia excavation and analysis procedures, subject matter, and goals of archaeology a applied to the historic past of North America. Special emphasis placed upon histori archaeological sites in the local region. Lecture, laboratory, and field work.

HST 510. (441) Colonial History of the U.S. (3) Formation and growth of the America colonies to the conclusion of the French and Indian War (1763).

HST 511. (443) The American Revolution and the Formation of the United States 1763-1800 (3) Organization of the British Empire, events preceding the Revolution the war for independence, Confederation era, drafting and ratification of the federa Constitution, politics of the new nation.

HST 512. (445) The Early United States Republic (3) Era from inauguration of Thoma Jefferson, through Jacksonian democracy, to the advent of the American Civil War.

HST 513. (447) The Civil War and Reconstruction (3) The American Civil War an Reconstruction of the South through 1877.

HST 514. (449) Robber Barons and Reformers, the U.S., 1877-1917 (3) The ris of American industry and the Populist-Progressive response to urbanization an industrialization.

HST 515. (451) Twentieth Century America (3) A study of the United States from 191 to 1950 with emphasis upon World War I, the Roaring Twenties, Depression and Ne Deal, World War II, and the origins of the Cold War.

HST 516. (452) America Since 1950 (3) Developments in American politics, cultural life civil rights, and foreign policy from the time of the Truman Administration to th present, including the Cold War, Korea, the Vietnam War, Watergate, the energ crisis, the nuclear arms race, feminism, and the "Me Decade."

ST 517. (480) Topics in Afro-American History (3) An intensive historical study of selected themes and events in the history of Afro-Americans from the origins of the Atlantic slave trade to the present. Examples of specific topics are: Slavery in the Americas, Blacks and the American Military Tradition, Black Folklore, and the Harlem Renaissance and biographies of Great Afro-American Leaders.

ST 520. U.S. Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme offered in American history. This course is open only to graduate students.

ST 522. U.S. Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of American history. This course is open only to graduate students.

ST 524. Conflict and Consensus in American History (3) An application of the historiographic concepts of conflict and consensus in American society to the examination of specific periods or topics in American history. This course is open only to graduate students.

ST 530. (403) Medieval Civilization (3) A study of medieval institutions and culture with special emphasis on feudalism, manorialism, and the religious system of the period.

ST 532. (407) Europe in the Age of Renaissance (3) Political, economic and social changes during the Renaissance, with special attention to the artistic and intellectual achievements of the age.

ST 533. (409) Europe in the Age of the Reformation (3) Causes and development of the Protestant Revolution and the Catholic Reformation with examination of the impact of these movements on the political, economic and social institutions of early modern Europe.

ST 534. (411) Europe: From Monarchy to Revolution (3) Modern Europe from the rise of absolute kings in the seventeenth century to the defeat of the Emperor Napoleon.

ST 535. (413) Europe: The Age of Industry and Empire (3) The origins and developments of the industrial revolution in Europe; its effect on politics, population, urbanization and social class consciousness; the establishment of modern colonial empires in the nineteenth century and their place in the world economic order.

ST 536. (415) Europe and the Struggle for World Mastery (3) The rivalry of Europe's great powers leading to World Wars I and II: the causes, events, and results of those global conflicts.

ST 537. (417) Europe Since 1945 (3) The revival of Europe after the Nazi period and its division by the Cold War; political, social and economic developments on both sides of the "Iron Curtain"; decolonization of Europe's empires; movements for political and economic integration; continuing revolutionary currents; Europe's place in contemporary world politics.

HST 540. European Colloquium (3) Readings and discussion of major research trends and schools of interpretation in selected themes in European history. This course is open only to graduate students.

HST 542. European Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of European history. This course is open only to graduate students.

HST 544. Studies in European Biography (3) Examination of selected figures in European history and the extent to which they shaped and were shaped by their times. This course is open only to graduate students.

HST 554. (431) Chinese Revolution (3) The Chinese Revolution from the May 4th Movement (1919) to the present. Special emphasis on the social and economic origins of the revolution, the history of the Communist Movement, the evolution of Mao Zedong's thought, and revolutionary development in the People's Republic.

HST 560. Non-Western Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme or period in non-Western history. This course is open only to graduate students.

HST 562. Non-Western Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of non-Western history. This course is open only to graduate students.

HST 564. Modernization and Revolution in the Non-Western World (3) Examination of industrialization, imperialism, nationalism, and other forces that have revolutionized traditional society in the non-Western world. This course is open only to graduate students.

HST 570. (470) Introduction to Applied History (3) A research seminar that acquaints students with the various sectors of applied history (government and public policy, archives and information management, cultural resources management, media and research organizations) and with the research methodologies unique to the field. Field trips, guest speakers, and a sponsored research project provide practical experiences for participants.

HST 572. Cultural Resources Management (3) Exploration of the theories and techniques of identifying, classifying, preserving, restoring, interpreting and managing the resources that make up this country's cultural heritage. In addition to readings, discussions, guest lectures, and field trips, students will work with public, private, and non-profit agencies directly engaged in preservation, restoration, and interpretation. Special emphasis will be placed on the study of three-dimensional artifacts and the meaning of material culture to the scholar. This course is open only to graduate students.

HST 574. Museum Studies (3) An introduction to the theories and practical application of managing a museum specializing in local, state, or regional history. Through readings, lectures, field trips, and a group project, students will familiarize themselves with the following: administration, collection development, preservation, research

and interpretation, exhibition, educational programs and community outreach, coordinating volunteers, and fund raising. This course is open only to graduate students.

HST 575. Historical Administration (3) Introduction to the use of historical skills in managerial or administrative settings. In addition to a survey of the literature on professionalization and the role and function of the professional in a bureaucracy, students will gain some experience in the areas of budgeting, grantsmanship, personnel administration, short-term and long-range planning, goal-setting, and strategy development. Special emphasis will be placed on issues relative to the planning, development, and management of historic sites and properties. This course is open only to graduate students.

HST 576. (482) Community Studies (3) Provides an introduction to the methodological and practical application of community studies. Topics include: oral history, folklore, ethnography, museum and archival collection and management, and historic preservation. Students will select a research project in cooperation with one of the local museums, historical societies, public libraries, or other government agencies.

HST 590. Comparative Historical Studies (3) Comparison of developments in different eras or places in order to determine unique or common historical themes. This course is open only to graduate students.

HST 591. Directed Independent Study (limited to one per student) (1-3). This course is open only to graduate students.

HST 593. Problems in History (3) Investigation of selected problems in European, American, and non-Western History through discussions, development of bibliographies, or a research paper. May be repeated one time for credit. This course is open only to graduate students.

HST 596. Seminar: Topics in History (3) Advanced research on specialized topics using, where possible, primary sources. May be repeated one time for credit. This course is open only to graduate students.

HST 599. Thesis (1-6). This course is open only to graduate students.

MASTER'S DEGREE PROGRAM IN MATHEMATICS

The Department of Mathematical Sciences offers programs of study leading to the Master of Arts or Master of Science degree in mathematics. The Master of Science track has options designed to prepare students for careers in business, industry, or government as well as for further study in mathematics. Applications from the sciences, industry, and management are stressed in course work from the areas of classical applied mathematics, operations research, statistics, and computer science. The more traditional Master of Arts track includes an option designed for secondary and community college teachers. There is also an option for those who intend to pursue the Ph.D. degree and a more flexible option that may be used to build a strong, broad background in basic areas of both the pure and applied sides of mathematics. The Master of Science track has more admissions prerequisites and required course work.

Admission Requirements

Applications for admission may be made at any time. Applicants are required to submit, normally by March 15 for fall admission, the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (GRE) Aptitude Test. Normally a minimum combined verbal and quantitative score of 1000 is required. Applicants are encouraged to take the GRE Advanced Test in mathematics as well. Scores more than five years old will not be accepted. In cases where the opportunity to take the GRE may be limited (such as in certain foreign countries) the applicant may request a waiver or modification of this requirement. Such requests will be considered by the department on their individual merit.
4. Three recommendations from individuals in professionally relevant fields

Each applicant also must:

5. Have a strong overall academic record and have passed, with a "B" or better average, the following undergraduate mathematics courses or their equivalent: a standard introductory calculus sequence including multivariate calculus, a course in linear algebra, and at least 15 additional semester hours of mathematics or statistics courses beyond the level of calculus.

   In addition, an applicant choosing the Master of Science track must:
6. Have had an undergraduate course in calculus-based statistics and have programming experience using a modern structured language; and
7. For the option Applied Mathematics I, be fluent in FORTRAN and have taken the following undergraduate mathematics courses or their equivalent: advanced calculus, elementary numerical methods, and introductory differential equations.

Admissions decisions are based upon examination of several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission. Such individuals may be required to take additional course work to remove deficiencies or required to demonstrate proficiency in certain areas. The student's advisory committee will determine any deficiencies and recommend appropriate remedies.

To ensure that the mathematical prerequisites have been met, any student not enrolled in the mathematics degree program or the MAT mathematics track must obtain permission from the Mathematical Sciences Department to register for any graduate course offered by the department.

Degree Requirements

1. The Master of Arts degree requires 24 semester hours of course work and six hours of seminar and thesis for a total of 30 semester hours. The Master of Science degree requires 30 semester hours of course work and six hours of thesis for a total of 36 semester hours. In each case, at least 15 hours of credit (including research seminar and thesis credit) must be earned from courses open only to graduate students.

2. The student must successfully complete a written or oral comprehensive exam that will be administered no earlier than during the final semester of enrollment in course work.

3. Each student will present a thesis, acceptable to the advisory committee, prior to graduation. The student will report orally on the thesis to an audience of students and faculty during the final semester before graduation.

Course Requirements for the Master of Arts in mathematics

Each student must complete 30 semester hours of graduate study in mathematics including:

MAT 595	Research Seminar (2), and
MAT 599	Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Mathematics - Secondary and Community College Teaching

A. Required core sequences:

MAT 511-512	Real Analysis I, II (3,3)
MAT 541-542	Modern Algebra I, II (3,3)

B. The remaining 12 hours of course work should be selected from MAT 500 (strongly recommended) MAT 502, 515, 521, 522, 531, 551, 552, 555, 581, 582; STT 505, 510.

II. Mathematics - Preparation for Further Graduate Study

A. Required core sequences:

MAT 511-512	Real Analysis I, II (3,3)
MAT 541-542	Modern Algebra I, II (3,3)

B. Recommended courses:

MAT 513	Measure and Integration (3)
MAT 531	Linear Algebra (3)

C. The remaining course work must include a coherent pair of courses in mathematics or statistics, at least one of which is open to graduate students only. Acceptable pairs of courses in algebra, analysis, applied mathematics, complex analysis, linear algebra, logic, number theory, numerical analysis, probability, statistics, and topology are listed in the advising guidelines.

III. Mathematics - General

A. Required core sequences:

Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 541-542	Modern Algebra I, II
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 535-536	Linear Programming and Discrete Optimization (3,3)

B. The remaining 12 hours of course work should include a coherent pair of courses in mathematics or statistics. No more than two courses having a CSC designator and no more than two courses having a STT designator may be used to fulfill the 30-hour requirement.

Course Requirements for the Master of Science in mathematics

Each student must complete 36 hours of graduate study in mathematical sciences including:

MAT 599	Thesis (6)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Applied Mathematics I

A. Required core sequences:

	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory (3,3)

B. Other required courses:

MAT (STT) 565	Applied Probability (3)
MAT 515	Introduction to Complex Variables (3)
MAT (CSC) 525	Numerical Analysis (3)
MAT 506	Scientific Computing (3)

C. At least two courses selected from STT 505, MAT (CSC) 509; MAT 526, 531, 533, 535, 536, 537, 563, 564, 568, 569, 570; CSC 575

II. Applied Mathematics II

A. Required core sequences:

	MAT 535-536	Linear Programming and Discrete Optimization (3,3)
Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)

B. Other required courses:

	MAT(STT) 565	Applied Probability (3)
	MAT(STT) 569	Stochastic Processes in Operation Research (3)
Either	MAT 537	Nonlinear Programming (3)
or	MAT 570	Simulation (3)
One of	STT 505, MAT (CSC) 509, MAT(CSC) 525 (3)	

C. The remaining course work should be selected from MAT(CSC) 504, 509, 525; MAT 506, 511, 512, 526, 531, 533, 537, 541, 570; MAT(STT) 568; STT 505; CSC 507, 575

III. Mathematical Sciences

A. Required core sequences:

Either	MAT 518-519	Applied Analytical Methods I, II
or	MAT 511-512	Real Analysis I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 541-542	Modern Algebra I, II (3,3)

B. At least two courses selected from STT 505; MAT(STT) 565; MAT(CSC) 509, 525

C. The remaining courses may be selected from any of those required or recommended for either Option I or II of the M.S. track.

GRADUATE PROGRAM IN MATHEMATICS

Course Descriptions

MATHEMATICS

MAT 500. Introduction to Mathematical Computing (3) Prerequisite: Permission of department. Study of a structured programming language and applications on a microcomputer. Problem solving algorithms, numerical methods and graphics.

MAT 502. Survey of Applications of Mathematics (3) Prerequisite: STT 362 and either MAT 500 or computing experience. An introduction to the techniques of discrete, continuous and stochastic mathematical modeling. Model construction, data collection, and mathematical/computer analysis are emphasized. Scientific and business applications.

MAT 504. (CSC 504) Advanced Discrete Structures (3) Prerequisite: MAT 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

MAT 506. Scientific Computing (3) Prerequisite: Fluency in FORTRAN and permission of department. Introduction to scientific computations on special-purpose machines. Machine architecture, survey of current machines, array processors, parallel processing, vectorization, software, applications.

MAT 509. (CSC 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

MAT 511-512. (411-412) Real Analysis (3-3) Prerequisite: Permission of department. Advanced study of convergence, continuity, differentiation and integration in Euclidean space. The real number system, basic topology of Euclidean spaces; sequences and series; continuity, differentiation of vector-valued functions, uniform continuity; theory of integration; implicit and inverse function theorems, Stokes' Theorem.

MAT 513. Measure and Integration (3) Prerequisite: MAT 512. Abstract measure theory. Lebesgue measure, integration, convergence theorems, absolute continuity, differentiation, Radon-Nikodym Theorem, product measures, Fubini's Theorem, Lebesgue spaces, convolution.

MAT 514. Functional Analysis and Applications (3) Prerequisite: MAT 512. Introduction to functional analysis and applications to areas such as linear and non-linear differential equations, integral equations and control theory. Topics selected from Banach spaces, operators, the Hahn-Banach Theorem, open mapping and closed graph theorems, Sovolev spaces, operators in Hilbert spaces and operational calculus.

MAT 515. (415) Introduction to Complex Variables (3) Prerequisite: Advanced calculus or MAT 511. A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties; analytic functions; power series; integration, Cauchy's Theorem, Laurent series and residue calculus; elementary conformal mappings and boundary value problems.

MAT 516. Complex Analysis (3) Prerequisite: MAT 511 and 515. Advanced study of complex-valued functions. Holomorphic and harmonic functions, Cauchy's Integral Theorem, Poisson's kernel and the Dirichlet problem, conformality, the Riemann Mapping Theorem, analytic continuation. Additional topics chosen from univalent, entire, meromorphic functions; Riemann surfaces; asymptotic methods; Mittag-Leffler, Runge and Weierstrass factorization theorems.

MAT 518-519. Applied Analytical Methods (3-3) Prerequisite: Undergraduate differential equations and advanced calculus. A thorough treatment of the solution of initial boundary value problems of partial differential equations. Topics include classification of partial differential equations, the method of characteristics, separation of variables, Fourier analysis, integral equations and integral transforms, generalized functions, Green's functions, Sturm-Liouville theory, approximations, numerical methods.

MAT 521. (421) Number Theory I (3) Prerequisite: Permission of department. Use of algebraic techniques to study arithmetic properties of the integers and their generalizations. Primes, divisibility and unique factorization in integral domains; congruences, residues and quadratic reciprocity; diophantine equations and additional topics in algebraic number theory.

MAT 522. Number Theory II (3) Prerequisite: MAT 521. A continuation of the study of number theory using analytic methods. Number theoretic functions; distribution of primes and the prime number theorem; the Riemann zeta function; diophantine approximation and the geometry of numbers: additional topics in analytic number theory.

MAT 525. (425) (CSC 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximations; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations. Error analysis. Certain algorithms are selected for programming.

MAT 526. Advanced Numerical Analysis (3) Prerequisite: MAT 525. Continuation of MAT 525. Rational and trigonometric interpolation, numerical integration, iterative techniques, eigenvalue problems. Numerical solution of initial and boundary value problems for ordinary differential equations, large linear systems, and partial differential equations.

MAT 531. Linear Algebra (3) Prerequisite: Permission of department. Theory of vector spaces, linear mappings and matrices. Determinants, eigenvalues, canonical forms, the Cayley-Hamilton Theorem, inner product spaces and positive definite matrices.

MAT 533. Applied Matrix Theory (3) Prerequisite: Undergraduate linear algebra and computing experience. Matrix theory and numerical techniques in linear algebra. Topics include elimination, iteration and factorization methods for systems of linear equations; minimal polynomials, eigenvalue approximations, norms and error estimates, spectral theorem, symmetric and unitary bilinear forms.

MAT 535. (435) Linear Programming (3) Prerequisite: Undergraduate linear algebra and computing experience. Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality; parametric linear programs; sensitivity analysis; modeling and computer implementation.

MAT 536. (436) Discrete Optimization (3) Prerequisite: MAT 535. Theory and applications of discrete optimization algorithms. Transportation problems and network flow problems; integer programming; computer implementation.

MAT 537. Nonlinear Programming (3) Prerequisite: Advanced calculus. Theory and applications for constrained and unconstrained nonlinear optimization. Theory of convex sets, convex and concave functions, Kuhn-Tucker conditions, duality, algorithm convergence; computational methods including penalty and barrier functions, gradient projection, and quadratic programming.

MAT 541. Modern Algebra I (3) Prerequisite: Permission of department. Introduction to group theory. Binary structures including semigroups and lattices; finite groups structure theorems, Sylow theorems and applications; group actions; free groups and presentations; structure of abelian groups.

MAT 542. Modern Algebra II (3) Prerequisite: MAT 541. Introduction to rings and fields Modules, integral domains, vector spaces. Structure of polynomial rings and their relation to linear algebra. Field extensions and Galois theory.

MAT 545. Group Theory (3) Prerequisite: MAT 541. Theory of groups. Isomorphism theorems; permutation groups and representation theorems; finite direct products and the fundamental theorem of abelian groups; the Sylow theorems and generalizations normal series and solvable groups; extensions and semidirect products; theory of simple groups.

MAT 551. (451) Topology I (3) Prerequisite: Permission of department. A study of the basic concepts of general topology. Metric spaces, continuity, completeness, compactness, connectedness, separation axioms, product and quotient spaces; additional topics in point-set topology.

MAT 552. Topology II (3) Prerequisite: MAT 551 and knowledge of elementary group theory. An introduction to the concepts of algebraic topology. Classification of surfaces, manifolds, the fundamental group, covering spaces; additional topics in algebraic topology.

MAT 555. Modern Geometry (3) Corequisite: MAT 541. A survey of modern geometry from several perspectives. Euclidean and non-euclidean axiomatic geometries; finite geometries; projective geometry; transformations and invariants. Additional topics may include introductions to algebraic geometry, combinatorial geometry or differential geometry.

MAT 557. (457) Differential Geometry (3) Prerequisite: Advanced calculus. Theory of curves and surfaces in Euclidean space. Frenet formulas, curvature and torsion, arc length; first and second fundamental forms. Gaussian curvature, equations of Gauss and Codazzi, differential forms, Cartan's equations; global theorems.

MAT 558. Differentiable Manifolds (3) Prerequisite: MAT 557. A study of differentiable manifolds. Functions of several variables and mappings, implicit and inverse function theorems. Vector fields, tensors and forms, exterior derivatives, Lie derivatives covariant derivatives and connections; Riemannian metrics, torsion and curvature tensors, Cartan's equations; Lie groups; submanifolds.

MAT 563. (463) Ordinary Differential Equations (3) Prerequisite: Undergraduate linear algebra and differential equations. Advanced study of ordinary differential equations. Existence and uniqueness; systems of linear equations, fundamental matrices matrix exponential; series solutions, regular singular points; plane autonomous systems, stability and perturbation theory; Sturm-Liouville theory and expansion in eigenfunctions.

MAT 564. Applied Analytical Models (3) Prerequisite: MAT 519. Topics in applied analysis of current interest. Topics may include tensor analysis and relativity, quantum mechanics, control theory, fluid mechanics, waves, ocean circulation, and mathematical models in biology or economics.

MAT 565. (465) (STT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

MAT 568. (STT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

MAT 569. (STT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

MAT 570. Simulation (3) Prerequisite: MAT/STT 565. Study of computer simulation of discrete and continuous random processes. Generation of pseudo-random variables, discrete event simulation, simulation design, simulation languages, statistical analysis of simulation output. Applications to modeling stochastic systems in computer science, engineering, and operations research.

MAT 581. (481) Introduction to Mathematical Logic (3) Prerequisite: Permission of department. The formal study of truth and provability. Propositional calculus; predicate calculus. Gödel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or non-standard analysis.

MAT 582. Set Theory (3) Prerequisite: MAT 581. An account of contemporary set theory. The Zermelo-Fraenkel axioms, ordinals and cardinals, models of set theory. The concepts of large cardinals, constructibility and the independence results.

MAT 592. Advanced Topics in Mathematics (3) Prerequisite: Consent of instructor. Advanced topics of current interest in pure and applied mathematics not covered in existing courses.

MAT 595. Research Seminar (2) Prerequisite: Consent of instructor. Designed to give the student experience in locating and learning mathematics outside the classroom setting. Use of the major mathematics journals, professional society publications and standard references including *Mathematical Reviews*. The nature of research in the mathematical sciences and research methodology.

MAT 599. Thesis (1-6)

COMPUTER SCIENCE

CSC 504. (MAT 504) Advanced Discrete Structures (3) Prerequisite: CSC 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

CSC 507. Advanced Data Structures (3) Prerequisite: CSC 332. Study of data structures and their applications. Design and analysis of algorithms, data types, trees, operations on sets, advanced set-representation methods, directed and undirected graphs, sorting, data structures and algorithms for external storage, memory management.

CSC 509. (MAT 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

CSC 525. (425) (MAT 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximation; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations; error analysis. Certain algorithms are selected for programming.

CSC 575. Computer Graphics (3) Prerequisite: CSC/MAT 525. Techniques and applications of computer graphics. Basic point-plotting techniques, line-drawing displays, two-dimensional geometric transformations, algorithms for clipping and windowing, simple graphics packages. Input devices and techniques for interactive graphics, raster graphics, three-dimensional graphics, graphics systems.

CSC 592. Topics in Computing (3) Prerequisite: Consent of instructor. Topics in computing of current interest not covered in existing courses.

STATISTICS

STT 505. Data Analysis (3) Prerequisite: STT 362. Introduction to exploratory data analysis. Use of stem and leaf plots, boxplots. Transformations of data, resistant lines, analysis of two-way tables, residual analysis. Comparison of robust/resistant methods with standard statistical techniques.

STT 511. (411) Design of Experiments and Analysis of Variance (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; design of experiments including completely randomized, randomized block, factorial, split-plot, and repeated measures designs; analysis of variance; non-parametric alternative methods of analysis. Statistical software packages will be used as appropriate in problem solving.

TT 512. (412) Applied Regression and Correlation (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; linear and multiple regression; correlation. Statistical software packages will be used as appropriate in problem solving.

TT 530. (430) Introduction to Non-parametric Statistics (3) Prerequisite: STT 362. Theory and methods of non-parametric statistics in the one- and two-sample problems and their comparisons with standard parametric procedures. Non-parametric tests for comparing more than two samples; tests of randomness and independence.

TT 540. (440) Linear Models and Regression Analysis (3) Prerequisite: STT 362. Theoretical introduction to the general linear model and its application to simple linear regression and multiple regression. Estimation and hypothesis testing of model coefficients; residual analysis; analysis of covariance.

TT 565. (465) (MAT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

T 566-567. (466-467) Mathematical Statistics (3-3) Prerequisite: STT 362. A rigorous introduction to mathematical statistics. Univariate and multivariate probability distributions; conditional and marginal distributions; theory of estimation and hypothesis testing; limiting distributions and the central limit theorem; sufficient statistics and the exponential class of probability density functions.

T 568. (MAT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

T 569. (MAT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

T 592. Topics in Statistics (3) Prerequisite: Consent of instructor. Topics in statistics of current interest not covered in existing courses.

THE CAMERON SCHOOL OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION

The Cameron School of Business Administration offers a program of study leading to Master of Business Administration degree for any qualified holder of a bachelor's degre from an accredited college or university regardless of undergraduate field of study. Th program's objective is the development of the broadly educated professional manager.

Admission Requirements

Applicants seeking admission to the graduate program in business administration ar required to submit the following to the Graduate School:

(1) An application for graduate admission
(2) Official copies of transcripts of all college work (undergraduate and graduate
(3) Official scores on the Graduate Management Admission Test (GMAT)
(4) Three recommendations including one from an employer or supervisor wh can comment on the applicant's work experience and potential for successf completion of a master's program. A strong overall academic average, a tot score of 1,000 or more based on the formula: 200 times the upper divisio grade point average (4.0 systems) plus the GMAT score, and at least on year of appropriate full-time work experience are minimum requirements fo consideration for graduate admission. However, admission decisions are base upon several factors, and if other indicators of success are evident, individua who fall below the established criteria in one of the areas may be considered f admission.

Degree Requirements

1. 54 semester credit hours of approved graduate credit must be satisfactorily complete for the degree. This number of credit hours may be reduced for students who qualify fo and are granted, certain course waivers. Petitions for waiver are submitted to the dea of the Cameron School of Business Administration upon acceptance for admission in the program. Despite the number of waivers granted, a minimum of 42 semester hou of graduate study must be completed. Up to six hours of graduate study may be accepte as transfer from an accredited college or university. However, the last 36 hours of gradua study must be completed at The University of North Carolina at Wilmington.

2. The student must satisfy a minimal mathematics requirement in calculus. This requir ment may be satisfied by completing MAT 151, its equivalent, or by passing the Advanc Placement Test (AB) in calculus.

3. The student must successfully complete a qualifying examination consisting of a o comprehensive examination.

4. Each student must complete the approved course of study within five years of the da of first registration for graduate study.

Course Requirements for the Master of Business Administration Degree

Students with undergraduate or graduate work in business administration may have t program of study reduced through waivers for certain courses. Students with no prior wo in business administration will be required to take the following program.

A. Core Requirements (24 semester hours)

The following courses comprise the core of knowledge essential to a basic understanding of modern business and managerial practice. These courses must be completed by each student unless evidence is presented of substantial academic work in such courses at the undergraduate or graduate level. Requirements may be waived on a course-by-course basis by the MBA Advisory Committee, subject to approval of the dean of the Cameron School of Business Administration.

ACG 501	Financial Accounting (3)
ECN 520	Economic Analysis I (3)
PDS 513	Quantitative Methods (3)
PDS 518	Management Information Systems (3)
BLA 560	Legal Environment and Business Regulation (3)
MGT 550	Organization Theory and Behavior (3)
FIN 535	Managerial Finance (3)
MKT 540	Marketing Management (3)

B. Professional Competence and Integrative Applications (24 semester hours)

In addition to the Core Requirements, the following courses develop depth and breadth of knowledge and provide analytical skills for practical application.

ACG 502	Managerial Accounting (3)
ECN 521	Economic Analysis II (3)
MGT 555	Practice of Management (3)
PDS 517	Production/Operations Management (3)
MGT 565	Current Issues in Business (1-1-1)
MGT 595	Corporate Policy and Strategy (3)
FIN 536	Financial Policy (3)
MKT 546	Strategic Marketing (3)

C. Electives (six semester hours)

Candidates will strengthen their knowledge and sharpen their skills in particular areas by taking at least two courses from the elective areas: accountancy, economics, management, marketing, finance, production and decision sciences.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

Course Descriptions

ACCOUNTANCY

ACG 501. Financial Accounting (3) An intensive course in accounting principles with special emphasis on the concepts underlying income determination, preparation and interpretation of financial statements and the managerial uses of accounting information. Topics include transaction analysis, asset valuation and expense and revenue recognition, capital structure and tools of financial analysis.

ACG 502. Managerial Accounting (3) Prerequisite: ACG 501. Interpretation and use of accounting information in the planning, coordination and controlling of business activities. Topics include cost behavior, manufacturing and distribution cost-volume-profit relationships; effects of taxation and price-level changes on business decisions; budgeting and responsibility accounting. Case studies emphasized.

ACG 503. Advanced Managerial Accounting (3) Prerequisite: ACG 502. An in-depth study of cost concepts appropriate for decision-making and of the budgetary

procedures used in planning and control. Emphasis is placed on relating recent advances in the quantitative and behavioral sciences to the role of the contemporary managerial accountant. Case analysis is emphasized.

ACG 506. Current Issues in Financial Accounting (3) Prerequisite: ACG 501. Advanced study of the principles and theory underlying the preparation of financial statements. Consideration is given to the problems related to pension plans, long-term leasing arrangements, refunding of bonds outstanding, allocation of income taxes, changing price levels, and other controversial issues. Utilizes text, authoritative statements, and articles from the current literature.

ACG 508. Taxation and Business Decisions (3) Prerequisite: ACG 502. The accounting and managerial effects of taxation upon decisions, policies, and procedures in the planning, organization, and operation of a business enterprise. Areas covered include the taxing process; taxation of individuals, corporations and fiduciaries; investment incentives; capital gains and losses; tax shelters; and tax planning. Problems and case analysis are used.

ACG 565. Current Issues in Business (1-1-1) (see MGT 565.)

ACG 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

BUSINESS LAW

BLA 560. Legal Environment and Business Regulation (3) A study of the management process and how it is influenced by the constitutional, legislative, judicial, regulatory, administrative, and social forces exerted on the business and social environment.

BLA 565. Current Issues in Business (1-1-1) (See MGT 565.)

BLA 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MANAGEMENT

MGT 550. Organization Theory and Behavior (3) Study of historical, theoretical and practical foundations for understanding organizational structure, behavior and performance. Emphasis on problem solving issues and applications in design, leadership, motivation and interpersonal communications.

MGT 555. Practice of Management (3) Prerequisite: BLA 560 and MGT 550. Major problems and decision areas confronting middle and upper-level managers. Topics include long-range planning, management by objectives, project management, leadership style, and performance appraisal. Case analysis is used to foster application of current managerial techniques to the analysis, solution, and prevention of organizational problems.

MGT 556. Human Resource Systems (3) Prerequisite: MGT 550. A study of manpower planning, training and development, job analysis, employee evaluation, labor legislation, history of the labor movement and the processes for negotiating and establishing workplace rules and procedures. Designed to foster understanding of the management of human resources rather than a technical orientation.

MGT 558. Organizational Behavior (3) Prerequisite: MGT 550. An examination of the persistent human problems in organizations including motivation, resistance to change, interpersonal and intergroup conflict, managing superior/subordinate relations. This course incorporates ideas from the behavioral sciences to provide a foundation for identifying and solving the human side of an organization's operations. Case studies are emphasized.

MGT 565. Current Issues in Business (1-1-1) Current and emerging issues that affect and are affected by business. Topics focus on three major categories:(1) International Business; (2) Communications and Technology; and (3) Business Trends and Developments. At least three hours are required and each candidate must include at least one hour in each of the above categories.

MGT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MGT 595. Corporate Policy and Strategy (3) Prerequisite: To be taken in the final year of the candidate's program of study. An integrative course focusing on factors considered by top-level executives in formulating both short-term and long-term corporate strategies. Particular attention is directed toward analysis of business trends, development of corporate strengths, and formulation of policies and plans. Involves extensive use of case analysis.

ECONOMICS

ECN 520. Economic Analysis I (3) Prerequisite: The mathematics of calculus. Economic analysis of demand, cost, resource allocation, and decision-making in alternative market structures for an individual firm and household perspective. Aggregate economic analysis examining monetary and fiscal policy and their effects on employment, income and the price level.

ECN 521. Economic Analysis II (3) Prerequisite: ECN 520 and PDS 513. An examination of the economic environment in which businesses make decisions. Particular attention to world-wide economic integration and decision-making in this environment. Topics emphasize government economic policy as to its effects on the cost, availability and use of funds. Hedging and financial decision-making in an international context receive special consideration.

ECN 526. International Trade and Finance (3) Prerequisite: ECN 520 and FIN 535. A study of the principles underlying world trade, exchange rate adjustments, balance of payments analysis, international financial markets, direct foreign investment, the international monetary system and the new international economic order. Discusses U.S. commercial policy, transnational corporations, international joint ventures, economic integration, preferential treatment and world-wide trading practices.

ECN 565. Current Issues in Business (1-1-1) (see MGT 565.)

ECN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

FINANCE

FIN 535. Managerial Finance (3) Prerequisite: ACG 501 and ECN 520. Financial decision-making in the modern business organization. A study of the basic principles, concepts, and analytical tools in the primary areas of finance including valuation models, cost of capital, capital budgeting, capital structure, and working capital policy.

FIN 536. Financial Policy (3) Prerequisite: FIN 535. Conceptual foundations for theories in the major areas of financial management, the theoretical context and validity of formalized techniques for improving decision making in capital budgeting, capital structure, dividend policy, mergers, bankruptcy, the use of convertible securities, and international finance. Case studies used extensively to supplement the conceptual foundations.

FIN 537. Financial Institutions and Markets (3) Prerequisite: FIN 535. Financial institutions as suppliers of funds to the money and capital markets. Comparative financial policies and portfolio considerations of institutions in the context of their changing market environments. The impact of the economic and regulatory climate on portfolio adjustments also are examined. Cases and bank simulation analysis used.

FIN 538. Investments and Portfolio Analysis (3) Prerequisite: FIN 535. Analysis of financial assets as appropriate investment alternatives. Analysis and evaluation of securities and portfolio management. Securities market information and theories of security selection are examined.

FIN 565. Current Issues in Business (1-1-1) (See MGT 565.)

FIN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MARKETING

MKT 540. Marketing Management (3) An examination of the major factors to be considered in the analysis, development, and control of marketing programs. Particular attention is directed to decisions concerning product service offering, price strategy, promotional methods, and the channels of distribution. Emphasis is placed on the role that marketing plays in the overall operation of the firm.

MKT 546. Strategic Marketing (3) Prerequisite: MKT 540. Major factors considered are setting marketing objectives, identifying market opportunities, selecting target markets, developing new products, formulating integrated marketing strategies, and solving marketing problems. Case analysis is used extensively to foster the application of marketing models and techniques to improve organizational performance.

MKT 548. Promotional Management (3) Prerequisite: MKT 540. Theories and practices of advertising, sales management, and sales promotion as they relate to the total marketing effort. Attention is directed to sales forecasting, media analysis, and the criteria for evaluating the results of the integrated marketing program. Case study is emphasized.

MKT 549. Marketing Research and Analysis (3) Prerequisite: PDS 513 and MKT 540. An examination of methods of gathering, processing, and analyzing information from the marketplace. Topics covered include problem identification, research design, primary and secondary sources of data, methods of data collection, scaling methods, and sampling techniques. Particular attention is directed to data-generation methods and improving marketing decision-making.

MKT 565. Current Issues in Business (1-1-1) (See MGT 565.)

MKT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

PRODUCTION AND DECISION SCIENCES

PDS 513. Quantitative Methods (3) Prerequisite: Completion of mathematics through calculus. Techniques for the analysis of business data. Topics include descriptive and inferential statistical methods, probability theory, and linear programming.

PDS 514. Advanced Quantitative Methods (3) Prerequisite: PDS 513. Quantitative techniques for the solution of business problems. Topics include mathematical programming, simulation, queueing theory, network theory, and game theory. Emphasizes the mathematical formulation and solution of problems using a computer.

PDS 517. Production/Operations Management (3) Prerequisite: PDS 513 and MGT 550. Techniques to aid the operations manager in making key decisions during the initial, online, and control stages of production. Topics include product and process design; facility size, location and layout; demand forecasting; production and work-force planning; quality control; and facilities maintenance. Formulation of problems for solution by the computer is an integral part of the courses.

PDS 518. Management Information Systems (3) A study of the process of analyzing, designing, and implementing computer-based systems that have information as their product. Minicomputer and microcomputer projects provide opportunities for comparing concepts with actual systems. An introduction to the BASIC programming language and orientation on the VAX minicomputer system are integral parts of the course.

PDS 519. Advanced Business Statistics (3) Prerequisite: PDS 513. Advanced statistical applications used to support the business decision-making process. Topics include multiple linear regression, nonlinear regression, time-series analysis, experimental design, decision theory, and non-parametric statistics.

PDS 565. Current Issues in Business (1-1-1) (See MGT 565.)

PDS 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

SCHOOL OF EDUCATION

MASTER OF EDUCATION

The School of Education offers four master's degree programs in professional education: (1) a Master of Education program in elementary education, (2) a Master of Education program in reading education, (3) a Master of Education program in special education with a track in cross-categorical areas, (4) a Master of Education program in educational administration and supervision with tracks in educational administration and supervision.

Admission Requirements

Applicants seeking admission to a graduate program in education are required to submit the following to the Graduate School:

(1) An application for graduate admission
(2) Official copies of transcripts of all college work (undergraduate and graduate)
(3) Official scores on the Miller Analogies Test
(4) Three recommendations by individuals in relevant professional fields

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in elementary education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in early childhood education, elementary education, intermediate education, or middle grades education. Applicants to the program in special education are required to hold, or be qualified to hold, North Carolina Class "A" special education teacher certification in at least one area of exceptionality and are required to have taken at least one course in mental retardation, one course in learning disabilities, and one course in emotional disturbance.

Applicants to the educational administration and supervision and reading programs are required to hold, or be qualified to hold North Carolina Class "A" elementary, middle grades or secondary teacher certification.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exception is appropriate may include community college administrators and teachers. In such instances, the programs may be modified appropriately. However, upon completion of the graduate program individuals admitted under such exceptions are not qualified for the institution's recommendation for North Carolina Board of Education instructional or administrative certification.

Students who seek professional improvement, but do not intend to pursue a degree may register for graduate courses through procedures established for non-degree students.

Degree Requirements

Elementary Education

The program leading to the Master of Education degree in elementary education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in early childhood education (K-4), or intermediate education (4-6) or elementary education. The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies common to both specialties, 18 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and elementary specialty courses.

I. Elementary Core

EDN 500	Human Development and Learning (3)
EDN 502	The School as a Social System (3)
EDN 523	Research in Education (3)
or	
EDN 525	Tests, Measures and Measurement in Education (3)
EDN 530	Curriculum (3)

II. Elementary Specialty Courses

Choose six courses, at least one from each of the following groups.

A. Mathematics

EDN 542	The Teaching of Mathematics (3)
*EDN 546	Diagnosis and Remediation in Mathematics (3)

B. Literacy

EDN 501	Language Development (3)
*EDN 534	Teaching Developmental Reading (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
EDN 537	Linguistics for Teachers
EDN 538	Teaching of Writing (3)
EDN 539	Children's Literature (3)
EDN 540	Adolescent Literature
EDN 547	Integrating Language Arts and Reading: Classroom Practice (3)

C. Social Studies

EDN 543	The Teaching of Social Studies (3)

D. Science

EDN 544	Teaching of Science in the Elementary Schools (3)
EDN 548	Inquiry - The Method of Science (3)

III. Electives

Six semester hours.

EDN 599, Thesis may be selected (1-6 hours)

*Field-based activities will be required in this course. Such activities will be designed cooperatively and supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education, or Tests, Measures and Measurements in Education. A comprehensive examination will be required.

Reading Education

The program leading to the Master of Education degree in reading education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification.

The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of controlled electives.

Based upon the view of the professional as decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a reading specialization with related language arts options.

I. Reading Education Core

EDN 500	Human Development and Learning (3)
EDN 523	Research in Education (3)
EDN 525	Tests, Measures and Measurement in Education (3)
EDN 530	Curriculum (3)

II. Concentration

A. Group I (3 hours)
Select one:

EDN 501	Language Development (3)
EDN 537	Linguistics for Teachers (3)

B. Group 2 (15 hours)

EDN 505	The Reading Process (3)
*EDN 534	Teaching Developmental Reading (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 536	Teaching Reading in the Content Areas (3)
*EDN 572	Practicum in Reading (3)

C. Group 3 (6 selected hours)

EDN 538	The Teaching of Writing (3)
EDN 539	Children's Literature (3)
EDN 540	Adolescent Literature (3)
EDN 545	Black Literature and Resources for Teachers (3)
*EDN 547	Integrating Language Arts and Reading: Classroom Practice (3)

EDN 559	Adult Literacy (3)
*EDN 573	The Disabled Reader (3)
EDN 599	Thesis (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed in the required course, Research in Education. A comprehensive examination will be required.

Applicants who do not hold North Carolina Class "A" teacher certification may be admitted. In such cases, the specified undergraduate courses necessary for education certification will be required in addition to the graduate courses.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Special Education

The program leading to the Master of Education degree in special education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in special education in at least one area of exceptionality. The program is cross categorical in nature with emphasis in three areas of the mildly handicapped: mental retardation, learning disabilities, and behaviorally/emotionally handicapped. The 36-semester hour program is comprised of 15 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and three semester hours of controlled electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a concentration in special education.

I. Special Education Core (15 hours)

EDN 501	Language Development (3)
EDN 503	Exceptional Child Development (3)
EDN 511	Organizational Behavior (3)
EDN 523	Research in Education (3)
EDN 530	Curriculum (3)

II. Concentration (21 hours)

A. Group 1 (18 hours)

EDN 524	Consultation Strategies for Teachers of Exceptional Children (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 546	Diagnosis and Remediation in Mathematics (3)
EDN 552	Program Development for the Mildly Handicapped (3)
EDN 553	Classroom Management of Mildly Handicapped Children (3)
*EDN 574	Practicum in Special Education (3)

B. Group 2 (3 selected hours)

EDN 504	Issues and Trends in Special Education (3)
EDN 554	Educating Young Handicapped Children (3)
EDN 555	The Mildly Handicapped Adolescent (3)

EDN 591	Independent Study (3)
EDN 595	Selected Topics in Education (related to exceptional children) (3)
EDN 599	Thesis, may be selected (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education. A comprehensive examination will be required.

Students who are accepted provisionally (without at least one course in mental retardation, one course in learning disabilities, and one course in behaviorally, emotionally handicapped) will take these courses before receiving the master's degree.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Educational Administration and Supervision

The Master of Education program in educational administration and supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instruction specialist. The 33-semester hour program is comprised of 15 semester hours of conceptual and technical studies common to both specialties, 12 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed.

I. Administration-Supervision Core

EDN 502	School as a Social System (3)
EDN 510	Organization and Control of American Education (3)
EDN 511	Organizational Behavior (3)
EDN 521	Decision-Making (3)
EDN 523	Research in Education (3)

II. Administrative Track

EDN 512	Legal Structures in Education (3)
EDN 560	Personnel Administration (3)
*EDN 561	Leadership Application (3)
*EDN 570	Internship in Educational Administration (3)
	Electives, Six semester hours

III. Supervision Track

EDN 500	Human Development and Learning (3)
*EDN 520	Instructional Development (3)
*EDN 530	Curriculum (3)
*EDN 571	Internship in Educational Supervision (3)
	Electives, Six semester hours

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, EDN 521, Decision-Making, and EDN 523, Research in Education. A comprehensive examination will be required.

MASTER OF ARTS IN TEACHING

The School of Education offers a program of study leading to the Master of Arts in Teaching degree. This program is comprised of a core of professional studies designed to enhance the instructional decision-making skills of secondary teachers and a specialization track designed to enhance knowledge of subject matter, structure of the disciplines the appropriate modes of inquiry. The program seeks to address the continuing commitment to strengthen the university's contribution to the improvement of educational service to the clients of elementary and secondary schools in southeastern North Carolina through the Master of Arts in Teaching for secondary teachers in the following specialties: biology chemistry, English, history, and mathematics.

The Master of Arts in Teaching program provides advanced academic and professional study and training for individuals holding, or qualified to hold, North Carolina Class "A" secondary teacher certification in one of the academic specialty fields included in the program. Within the program, academic specialties are offered in biology, chemistry English, history and mathematics. The program is comprised of 36 semester hours, 12 in professional education as specified below, and 24 in the academic specialty.

Admission Requirements

Applicants seeking admission to the Master of Arts in Teaching program are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields

A combined score of 1000 on the verbal and quantitative portions of the Graduate Record Examination; also, where required by the corresponding M.A. and M.S. program, applicants to the Master of Arts in Teaching program will be required to submit scores on the relevant specialty portion of the Graduate Record Examination; a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; an overall academic average of "B" or better in the basic courses prerequisite to the area of proposed graduate study; and hold, or be qualified to hold, North Carolina initial teacher certification in the area of proposed study.

Degree Requirements

1. The program requires a minimum of 36 semester hours, with 12 prescribed in professional education and 24 in the area of academic specialization. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. A written comprehensive examination addressing both the professional core and the academic specialty will be required.

3. The program shall be completed within five years of the date of first registration for graduate study.

I. Professional Core

EDN 500	Human Development and Learning (3)
EDN 520	Instructional Development (3
EDN 523	Research in Education (3)
EDN 565	Curriculum and Instruction in Secondary Subjects (3)

II. Academic Track

A. Biology

24 semester hours are required. Of this number, three are common to all students, and 21 will be selected in consultation with the program advisement committee. The common requirements are:

BIO 501	Introduction to Scientific Research and Presentation (1)
BIO 593	Colloquium (1)
BIO 595	Seminar (1)

B. Chemistry

24 semester hours are required. Of this number, five are common to all students, and 19 will be selected in consultation with the program advisement committee. Within the latter category, a maximum of six semester hours may be selected from other disciplines in the natural and mathematical sciences. The common requirements are:

CHM 501	Introduction to Chemical Research (1)
CHM 591	Directed Individual Study (Chemical Research) (3)
CHM 595	Graduate Seminar (1)

C. English

24 semester hours are required. Of this number, 18 are specified among four areas, and six may be selected in consultation with the program advisement committee. The common requirements are:

ENG 501	Introduction to Research Methods in English (3)
ENG 502	Introduction to Literary and Writing Theory (3)
ENG 520	Linguistics (3)
ENG 572	Literary Theory and Criticism (3)

In addition, all students will select at least two courses in the study of literature, which may include EDN 545, Black Literature and Resources for Teachers (3). Students will utilize the remaining six semester hours to extend one of three areas of interest: linguistics, writing, and literature.

D. History

24 semester hours are required in the following pattern:

HST 500 Historiography and Methodology (3)

A 12 semester hour concentration, including seminar and colloquium in one of the following areas:

American history
European history
Non-western history

Six to nine semester hours selected from the two remaining concentration areas. Three semester hours may be selected from another social science or human-

ities discipline, but may not be included in the concentration. The program also shall meet the following additional constraints: Two additional seminar or colloquium courses and two post-1900 courses, at least one of which must be in the concentration area.

E. Mathematics
24 semester hours are required. Of this number, 12 are common to all students and 12 will be selected in consultation with the program advisement committee. The common requirements are:

MAT 511-512	Real Analysis I, II
MAT 541-542	Modern Algebra I, II

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500. Human Development and Learning (3) Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501. Language Development (3) Focus on the development of language and its relation to cognitive processes in young children. Theories of language learning and growth are explored in terms of patterns of evidence and in terms of implications for decision-making affecting school children. Concepts associated with language structure, functions, and processes are developed. A variety of language and language-education topics are explored.

EDN 502. The School as a Social System (3) Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, and biculturalism.

EDN 503. Exceptional Child Development (3) Prerequisite: EDN 501. Designed to provide an understanding of the intellectual, emotional, and physical development of exceptional children. The interplay of biological and environmental factors that produce deviations in development is examined. Organized around a developmental approach to the study of exceptionality that suggests strategies for determining bases of exceptionality. Implications of development differences for the special educator will be stressed.

EDN 504. Issues and Trends in Special Education (3) Designed to focus on emerging directions related to the education of exceptional children. Relevant social, educational, bio-medical, developmental, psychological, and legal issues will be examined as well as implications for the schools.

EDN 505. The Reading Process (3) Prerequisites: EDN 523, 525, or consent of the instructor. Develops conceptualization of the process of reading in mature readers and of stages in literary development. Analysis of psychomotor and psycholinguistic

parameters of reading, word recognition and sentence processing both for beginning and advanced readers, the task of learning to read, factors affecting reading development, and of schema theories of comprehension.

EDN 510. Organization and Control of American Education (3) Designed to include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511. Organizational Behavior (3) Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social-systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512. Legal Structures in Education (3) Prerequisite: EDN 510 or approval of department. Designed (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally consistent practices.

EDN 520. Instructional Development (3) Designed to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and objective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experience.

EDN 521. Decision-Making (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities in identification and analysis of decision situations and decision alternatives, in procedures for choice and in design and analysis of educational information system. Contents will include study of alternative decision-making models, procedures for choice, evaluation of educational programs, and educational information systems. The activities will include lecture, discussion, and simulated and real applications to decision situations in schools systems.

EDN 522. Educational Media (3) Designed to provide students with the theory and practical skills necessary for selecting, producing, and evaluating mediated materials in education. Students will learn to produce a variety of audio-visual materials including graphics, transparencies, slides, videotapes. In addition, there will be considerable emphasis on photography including developing and printing. Instruction in operating and troubleshooting equipment also will be treated. The primary goal of this course is to develop confidence and competency in the media area. This course will

include lectures and a workshop format. Students will produce a variety of mediated projects during the course.

EDN 523. Research in Education (3) Designed to develop research competencies required for interpretation and critique of research report and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 524. Consultation Strategies for Teachers of Exceptional Children (3) Designed to develop communication skills relevant for the decision-making roles of the special education teacher. Emphasis on group dynamics, conflict resolution, generation of alternative solutions, interview procedures, parent conferences, team meetings, orientation of general educators, and mainstreaming handicapped children.

EDN 525. Tests, Measures, and Measurement in Education (3) Prerequisite: EDN 301, EDN 520, or approval of instructor. Design to develop a conceptual framework for obtaining and interpreting data about behavioral and psychological traits of persons that may be needed for a variety of purposes. Particular attention will be given to developing understanding of validity of measures for the intended purposes and for assessing the trait that is intended to be measured. Students will learn to make judgments of validity of testing systems and to develop valid tests and testing systems. Mathematical and statistical tools will be studied for analyzing items, tests, and scores and students will practice their use. Students will learn to use computers for test development, and test administration, and to analyze records of performance on tests.

EDN 530. Curriculum (3) Develops a conceptual framework for understanding curriculum in relation to other aspects of educational systems. Students learn to evaluate curricula in terms of structural elements, underlying value orientations, and assumptions about subject matter and about learning. Introduction to issues of curriculum change, implementation, evaluation, development, and design.

EDN 531. Study of Teaching in Early Childhood Education (3) Designed to improve teaching performance and to develop competencies in the critical analyses of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532. Comparative Studies in Early Childhood Education (3) Prerequisite: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an indepth cross-cultural survey of early childhood education in selected countries. The history of philosophical thoughts, the political and socio-economic changes and research efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533. Early Childhood Education in Focus (3) Prerequisite: EDN 500, 501, 502, or approved of department. Designed to develop the ability to look to current trends

and issues in early childhood education. Objectively, this course will include critical analysis of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 534. Teaching Developmental Reading (3) Develops understandings of an effective classroom reading program. Reviews practices, materials, and approaches for teaching basic reading skills through the analysis of research literature and critique of personal beliefs and practices.

EDN 535. Diagnosis and Teaching of Reading/Language Arts (3) Designed for the elementary, special education, and reading teachers, this course focuses on the comparison of alternative models for assisting individual learners with literacy/language learning. Students review current diagnostic tests, new diagnostic procedures, develop teaching strategies and apply those understandings to the tutoring of individual students. A diagnostic report is generated. Students are expected to articulate a position concerning the viability of models for diagnostic teaching in their school setting.

EDN 536. Teaching Reading in the Content Area (3) Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in a particular content area.

EDN 537. Linguistics for Teachers (3) A study of current American English and of the principles of analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom. Includes exploration of language related educational issues such as bilingualism, dialects, and disorders.

EDN 538. The Teaching of Writing (3) Intensive review of principles of grammar, rhetoric and usage (approximately 1/2 of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539. Children's Literature (3) Develops skills and understanding to improve teachers' competencies in formulating sound literature programs. Includes in-depth study of the functions of children's literature and criteria for evaluation of types of literature suitable for children at various developmental levels. Factors influencing change such as paperbacks, representation of minorities, sexism, and censorship will be discussed.

EDN 540. Adolescent Literature (3) A comprehensive study of literature appropriate for the middle grades, its value in the school curriculum and its importance in fulfilling intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related material

are covered. Projects related to instructional preparation and student activities are required.

EDN 542. The Teaching of Mathematics (3) Focus on materials and methods for teaching mathematics in grades K-9, with emphases on the logical, psychological, and sociological foundations of mathematics education. A survey of curricula appropriate at the K-9 level. Library research in current topics related to the teaching of mathematics.

EDN 543. The Teaching of Social Studies (3) Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544. Teaching of Science in the Elementary School (3) To assure that science at the elementary school level is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at the elementary school level. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545. Black Literature and Resources for Teachers (3) A survey of Black literature, including the examination of material published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 546. Diagnosis and Remediation in Mathematics (3) The study and application of teaching mathematics in the diagnostic mode. Included will be a historical review of diagnostic procedures in mathematics, a survey of mathematics curriculum, an examination of the theoretical models of diagnosis and of materials useful to the classroom teacher or clinician. Intensive work with children experiencing difficulty in mathematics will be required.

EDN 547. Integrating Language Arts and Reading: Classroom Practice (3) Develops student ability to conceptualize and implement a classroom communication arts program. Analyzes patterns of learning and practices in teaching language arts processes and skills. Examines strategies for fostering language arts growth through integrated language activities. Field activity required.

EDN 548. Inquiry — The Method of Science (3) The course assumes initial-level competency in the curriculum and methods of science. The course will focus on the conceptualization of and rationale for using the inquiry method of teaching science. Students will participate in activities taken from a variety of science curriculum programs for elementary through senior high school. The course also will provide students with an opportunity to acquire and practice the skills needed to utilize the inquiry method and to guide scientific investigations at K-12 levels. Methodology and types of activities appropriate to the student's level of teaching will be selected.

EDN 549. Middle School Education (3) Study of educational programs for upper elementary education (junior high, middle school, intermediate school). Review of learning, physical, and social characteristics of "transescents" and historical and current approaches to their education. Comparison and contrast of curriculum, instruction, administrative and organizational features of exemplary and typical intermediate, middle and junior high schools.

EDN 550. Nature and Needs of Exceptional Children (3) This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics, etiology, educational procedures, and psychosocial implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is open only to elementary majors and administration/supervision majors.

EDN 552. Program Development for Mildly Handicapped (3) Prerequisites: EDN 502 and 530. Designed to develop an understanding of how to develop and teach relevant curricula to handicapped children through systematic instruction. Focus on characteristics and etiology, assessment, planning, implementation of instructional plans, and selection and utilization of appropriate methods and materials for a wide range of curricular areas.

EDN 553. Classroom Management of Mildly Handicapped Children (3) Designed to develop knowledge and skills, necessary for planning and implementing various classroom management strategies. Focus on observation and measurement of behaviors, design of classroom management strategies, utilization of strategies in the special education and regular classroom environment.

EDN 554. Educating Young Handicapped Children (3) Overview of early childhood education for the handicapped. Trends toward early identification of handicapping conditions and appropriate intervention strategies will be examined. Methods for dealing with developmental delays in regular and special preschool settings will be studied. Working with parents and primary caretakers of young handicapped children will be emphasized.

EDN 555. The Mildly Handicapped Adolescent (3) Designed to provide a basis for understanding the educational needs of mildly handicapped adolescents. The following topics will be covered during the course: the impact of handicapping conditions on the developmental tasks of adolescence; strategies for the remediation of deficits in basic skills; the interrelationship of vocational intervention; the current status of educational programs for the mildly handicapped.

EDN 559. Adult Literacy (3) Examines the definition of illiteracy and the problem of adult literacy. Reviews approaches to dealing with the problem from philosophical, pedagogical, and sociological bases. Reviews the many movements to overcome the problem in the United States and abroad. Provides students with ideas, methods, and materials for teaching adults to read.

EDN 560. Personnel Administration (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop knowledge, skills, and abilities in specification and analysis of roles and role performance, and in selection, supervision,

and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures and a variety of simulated personnel related tasks.

EDN 561. Leadership Applications (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop skills and abilities in analysis, initiation, establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management, communications, information systems, and budgeting. Activities will include lecture, discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562. Automation in Administrative and Instructional Practices (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563. Educational Environments (3) Prerequisites: EDN 502, 510, 511, or approval of department. Designed to develop knowledge, skills, and abilities in the analysis, design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564. Politics and Policy-Making in Education (3) Designed to study the theories, processes, functions, limits, alternatives, goals, and consequences of policy-making as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 565. Curriculum and Instruction in Secondary Subjects (3) Prerequisites: EDN 500, 520, 523 or approval of department. Designed to develop curriculum and instructional skills in the content areas, the course will address generic skills and applications within specific content areas. The student will demonstrate planning and presentation skills in a supervised practicum.

EDN 570. Internship in Educational Administration (3) Designed to provide experience related to major aspects of the role of principal. Observations of principals and assistant principals, with written reports based on these observations and literature reviews. The major emphasis of the internship will be upon aspects of the human-resources management of the principal's role in task areas such as staff development, supervision and evaluation, community relations and student

development. Additional topics of investigation will include such administrative task areas as budget development, budget allocation, fiscal management, reporting and instructional scheduling. Students with experience in the role of principal or assistant principal may request waiver of this course requirement.

EDN 571. Internship in Educational Supervision (3) Designed to provide experiences related to major aspects of the role of supervisor. Observations of supervisors and written reports based on these observations and literature reviews. The major emphasis of the internship will be upon aspects of the human-resources management of the supervisor's role in task areas such as staff development, teacher relations, principal relations, and relations with outside consultants. Additional topics of investigation will include such supervisory task areas as program planning, curriculum review, budget development, budget allocations, fiscal management, and reporting. Students with experience in the role of supervisor may request waiver of this course requirement.

EDN 572. Practicum in Reading (3) Prerequisite: EDN 535. Application of understandings of literacy processes and literacy acquisitions to the level of the classroom. Student designs and implements a classroom program based upon a defensible philosophical perspective.

EDN 573. The Disabled Reader (3) Prerequisites: EDN 535, 572. Designed to develop competence and performance in testing, teaching, and designing reading/learning programs for the severely disabled reader. Appropriate referral services will be identified. Consultation skills will be developed. Supervised practicum required.

EDN 574. Practicum in Special Education (3) Designed to provide a supervised internship in a cross-categorical special education setting. Provides experiences in diagnosing individual needs, developing educational programs, instructing mildly handicapped students, designing and implementing classroom management techniques, and consulting with teachers, administrators, parents and other professionals.

EDN 591. Independent Study (3) Prerequisites: 15 semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

EDN 594. Seminar in Education (1-4) Designed to assist the elementary reading or special education graduate student in identifying and synthesizing ideas within and across courses and formulating reasoned responses to contemporary educational questions.

EDN 595. Special Topics in Education (1-4) Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon approval of the dean of the Graduate School. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599. Thesis in Education (1-6) Prerequisites: EDN 523, at least 18 additional hours toward completion of the master's degree, and permission of instructor. Intensive study of topic selected by student and approval by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

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17. Cameron Hall
18. Dorm '85
19. Residence Life Building
20. Proposed Student Housing
21. Campus Police
22. University Apartments
23. Hewlett Hall
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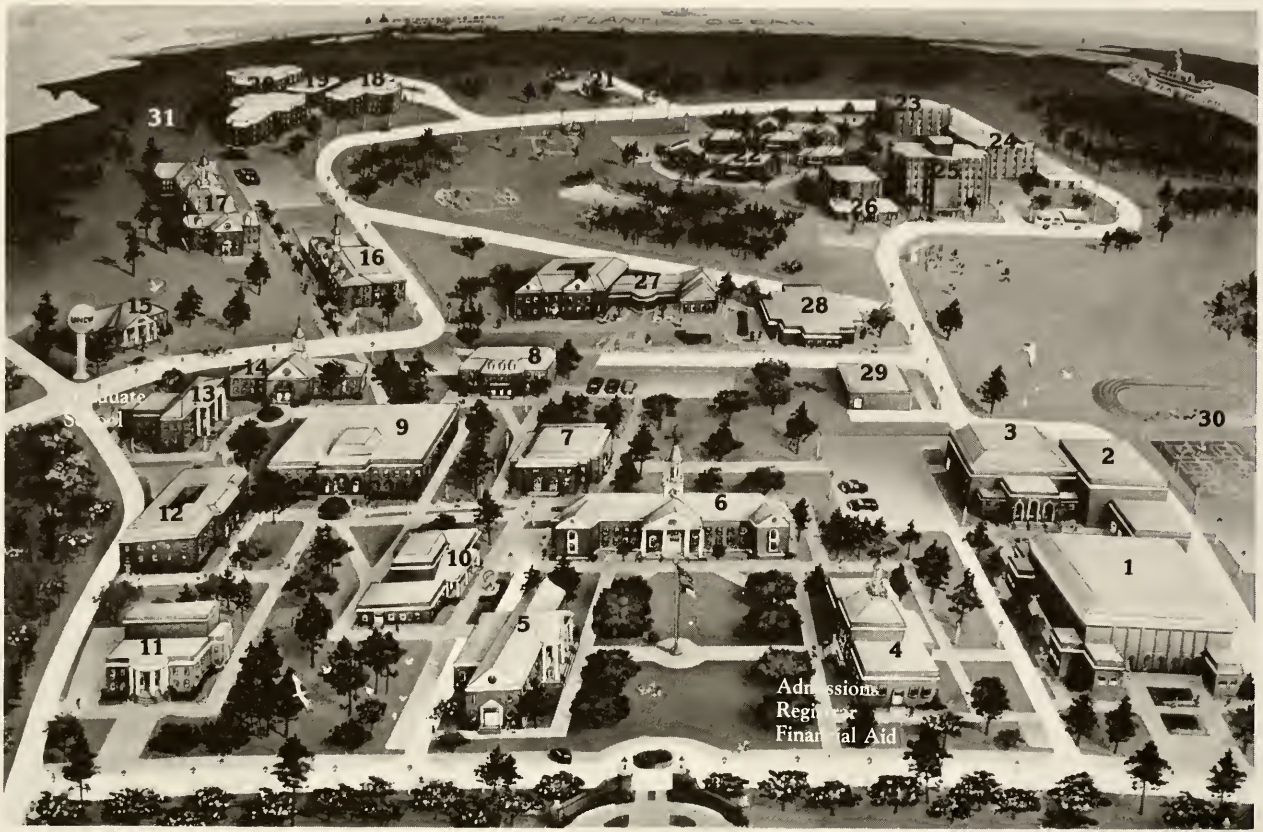
25. Galloway Hall
26. Belk Hall
27. University Union
28. Student Support Center
29. Warehouse/Copy Center
30. Harold Greene Track & Field Complex
31. East Cafeteria



The University Of North Carolina At Wilmington

The Graduate School is located in Bear Hall. The Admissions, Registrar and Financial Aid offices are located in James Hall.

Fourth Class
Book Rate

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at Wilmington
Wilmington, N.C.
28403-3297

The University of North Carolina at Wilmington

Graduate Catalogue

1991-1992

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

GRADUATE CATALOGUE

1991-92
Bulletin 2

he University of North Carolina at Wilmington is committed to equality of educational opportunity and oes not discriminate against applicants, students, or employees based on race, color, national origin, eligion, sex, age, or handicap. Moreover, the University of North Carolina at Wilmington is open to people f all races and actively seeks to promote racial integration by recruiting and enrolling a larger number f black students.

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All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of The University of North Carolina at Wilmington.

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W. Albert Corbett
Chairman
Board of Trustees

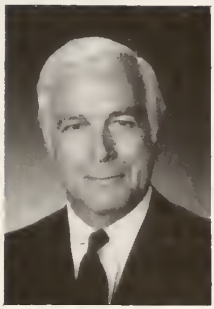
All of us on the Board of Trustees at the University of North Carolina at Wilmington are delighted that you have chosen to come here to do your graduate work. Our growing graduate program attests to the commitment of the Board to ensure increasing opportunities to pursue higher education in southeastern North Carolina.

Physically, culturally, and socially, the University of North Carolina at Wilmington has much to offer the mature student. In addition to the glories of the sea and the river, Wilmington has a vibrant cultural life and an excellent mix of the historical and the busy contemporary.

Become involved. While you are here, learn not only in the classroom but from all that your surroundings have to offer you. Thanks for choosing the University of North Carolina at Wilmington. The faculty and staff stand ready to support, in every way, your growing and learning here.

Sincerely,

W. Albert Corbett
Chairman of the Board



Dr. James R. Leutze
Chancellor

As you begin your graduate career at the University of North Carolina at Wilmington, you are entering a challenging time of rigorous academic pursuits. To achieve this level of education, you have already demonstrated scholastic ability and intellectual promise. We welcome your critical thinking and invite you to become a valued member of an intellectual society.

You have chosen an institution whose faculty care about students and whose students care about building a tradition of academic achievement and research accomplishments. You will learn to love Wilmington with its charm, traditions and access to varied recreational options.

UNCW faculty and staff are vitally interested in your success, and we are here to help you. I keep regular office hours for students, and I expect you to come see me if you think I can help, or just to chat.

With all best wishes,

James R. Leutze
Chancellor

1991

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CALENDAR OF EVENTS*
1991-92

Fall Semester, 1991

August 12, Monday	Academic year begins
August 17, Saturday	On-campus housing opens for new students
August 18, Sunday	On-campus housing opens for returning students
August 19-20, Monday-Tuesday	Orientation and advising
August 21, Wednesday	Registration**
August 22, Thursday	Classes begin
August 28, Wednesday	Last day to add a class or drop without a grade
September 2, Monday	Labor Day holiday
September 12, Thursday	Faculty meeting
October 9, Wednesday	Fall vacation begins 10:30 p.m.
October 14, Monday	Fall vacation ends 8:00 a.m.
November 8, Friday	Last day to withdraw with a WP - graduate students
November 26, Tuesday	Thanksgiving vacation begins 10:30 p.m., residence halls close
December 1, Sunday	Residence halls open 3 p.m.
December 2, Monday	Thanksgiving vacation ends 8:00 a.m.
December 6, Friday	Last day of classes
December 7, Saturday	Reading day
December 9-14, Monday-Saturday	Final examinations
December 16-17, Monday-Tuesday	Final examinations
December 17, Tuesday	Graduation application deadline, spring 1992. graduate students
December 17, Tuesday	Fall semester ends/on-campus housing closes

**Contact the Graduate School for additional times for graduate registration.

Spring Semester, 1992

January 8, Wednesday	On-campus housing opens
January 9, Thursday	Orientation and advising
January 10, Friday	Registration**
January 13, Monday	Classes begin
January 17, Friday	Last day to add a class or drop without a grade
January 20, Monday	Martin Luther King holiday
February 28, Friday	Spring vacation begins 10:30 p.m.
March 9, Monday	Spring vacation ends 8:00 a.m.
March 31, Tuesday	Last day to withdraw with WP - graduate students
April 9, Thursday	Faculty meeting
April 16, Thursday	Easter vacation begins 10:30 p.m.
April 20, Monday	Easter vacation ends 8:00 a.m.
April 29, Wednesday	Last day of classes
April 30, Thursday	Reading day
May 1-2, Friday-Saturday	Final examinations
May 4-9, Monday-Saturday	Final examinations
May 8, Friday	Graduation application deadline, summer 1992, graduate students
May 9, Saturday	Spring semester ends/on-campus housing closes
May 16, Saturday	Commencement, academic year ends

**Contact the Graduate School for additional times for graduate registration.

Summer Session, 1st, 1992

May 21, Thursday	On-campus housing opens
May 22, Friday	Registration**
May 25, Monday	Classes begin
May 26, Tuesday	Last day for registration
May 27, Wednesday	Last day to withdraw without a grade
June 12, Friday	Last day to withdraw with WP - graduate students
June 23, Tuesday	Last day of classes
June 24, Wednesday	Final examinations; term ends

Summer Session, 2nd, 1992

June 28, Sunday	On-campus housing opens
June 29, Monday	Registration**
June 30, Tuesday	Classes begin
July 1, Wednesday	Last day for registration
July 2, Thursday	Last day to withdraw without a grade
July 6, Monday	Independence Day holiday
July 21, Tuesday	Last day to withdraw with WP - graduate students
July 30, Thursday	Graduation application deadline, fall 1992, graduate students
July 30, Thursday	Last day of classes
July 31, Friday	Final examinations/term ends/on-campus housing closes

*Calendar may be adjusted due to state legislative action.
**Contact the Graduate School for additional times for graduate registration.

CALENDAR OF EVENTS*
1992-93

Fall, 1992

August 15, Saturday	On-campus housing opens for new students
August 16, Sunday	On-campus housing opens for returning students
August 16-18, Sunday-Monday-Tuesday	Orientation and advising
August 19, Wednesday	Registration**
August 20, Thursday	Classes begin
August 26, Wednesday	Last day to add a class or drop without a grade
September 7, Monday	Labor Day holiday
September 10, Thursday	Faculty meeting
October 7, Wednesday	Fall vacation begins 10:30 p.m.
October 12, Monday	Fall vacation ends 8 a.m.
November 6, Friday	Last day to withdraw with WP—graduate students
November 24, Tuesday	Thanksgiving vacation begins 10:30 p.m.; residence halls close
November 29, Sunday	Residence halls open 3 p.m.
November 30, Monday	Thanksgiving vacation ends 8 a.m.
December 4, Friday	Last day of classes
December 5, Saturday	Reading day
December 7-12, Monday-Saturday	Final examinations
December 14-15, Monday-Tuesday	Final examinations
December 15, Tuesday	Graduation application deadline, spring 1993, graduate students
December 15, Tuesday	Fall semester ends/on campus housing closes

**Contact the Graduate School for additional times for graduate registration.

Spring, 1993

January 6, Wednesday	On-campus housing opens for new students
January 7, Thursday	Orientation and advising
January 8, Friday	Registration**/on-campus housing opens for returning students
January 11, Monday	Classes begin
January 15, Friday	Last day to add a class or drop without a grade
January 18, Monday	Martin Luther King holiday
February 26, Friday	Spring vacation begins 10:30 p.m.
March 30, Tuesday	Last day to withdraw with WP — graduate students
April 8, Thursday	Easter vacation begins 10:30 p.m.
April 12, Monday	Easter vacation ends 8 a.m.
April 15, Thursday	Faculty meeting
April 28, Wednesday	Last day of classes
April 29, thursday	Reading day
April 30-May 1, Friday-Saturday	Final examinations
May 3-8, Monday-Saturday	Final examinations
May 7, Friday	Graduation application deadline, summer 1993, graduate students
May 8, Saturday	Spring semester ends/on-campus housing closes
May 15, Saturday	Commencement

**Contact the Graduate School for additional times for graduate registration.

Summer Session, 1st, 1993

May 20, Thursday	On-campus housing opens
May 21, Friday	Registration**
May 24, Monday	Classes begin
May 25, Tuesday	Last day for registration
May 26, Wednesday	Last day to drop a class or withdraw without a grade
June 11, Friday	Lats day to withdraw with WP — graduate students
June 22, Friday	Last day of classes
June 23, Wednesday	Final examinations/term ends

Summer Session, 2nd, 1993

June 27, Sunday	On-campus housing opens
June 28, Monday	Registration*
June 29, Tuesday	Classes begin
June 30, Wednesday	Last day for registration
July 1, Thursday	Last day to drop a class or withdraw without a grade
July 5, Monday	Independence Day holiday
July 20, Tuesday	Last day to withdraw with WP — graduate students
July 29, Thursday	Graduation application deadline, fall 1993, graduate students
July 29, Thursday	Last day of classes
July 30, Friday	Final examinations/term ends/on-campus housing closes

*Calendar may be adjusted due to state legislative action.
**Contact the Graduate School for additional times for graduate registration.

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Philip G. Carson

HISTORY OF THE UNIVERSITY

HISTORY OF THE UNIVERSITY SYSTEM

The University of North Carolina is comprised of all the public institutions of higher education in North Carolina that confer degrees at the baccalaureate level or higher. The university was authorized by the State Constitution in 1776, and it was chartered in 1789 by the General Assembly.

The University of North Carolina opened its doors to students at Chapel Hill in 1795. Thereafter, beginning in the latter part of the nineteenth century, the General Assembly of North Carolina has established and supported fifteen other public senior institutions in keeping with Article IX, Section 8, of the Constitution of North Carolina which provides that the "General Assembly shall maintain a public system of higher education, comprising the University of North Carolina and such other institutions of higher education as the General Assembly may deem wise."

By 1969, the University of North Carolina included six constituent institutions, governed by a single Board of Trustees. This multi-campus university had its beginnings in legislation enacted in 1931 that defined the University of North Carolina to include the University of North Carolina at Chapel Hill, North Carolina State University at Raleigh, and the University of North Carolina at Greensboro. In the 1960's three additional campuses were added: The University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington.

Beginning in 1877, the General Assembly of North Carolina established or acquired ten additional separately governed state-supported senior institutions of higher education. They are Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. Then, in 1971, the General Assembly redefined the University of North Carolina, and under the terms of that legislation all sixteen public senior institutions became constituent institutions of the University of North Carolina.

The constitutionally authorized Board of Trustees of the six-campus University of North Carolina was designated by the Board of governors and this body is by law the University of North Carolina. The Board of Governors consists of thirty-two members elected by the General Assembly, and it is charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." The chief executive officer of the university is the president. Each constituent institution of the university has its own faculty and student body. The chief administrative officer of each institution is the chancellor, and the chancellors are responsible to the president.

Each constituent institution also has a Board of Trustees composed of thirteen members: eight elected by the Board of Governors, four appointed by the governor, and the elected president of the study body ex officio. (The School of the Arts has two additional ex officio trustees.) The principal powers of these institutional board are exercised under a delegation of authority from the Board of Governors.

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

Statement of Institutional Mission

The University of North Carolina at Wilmington is a community of scholars dedicated to excellence in teaching, research, artistic achievement, and service to local and global communities. It is an evolving comprehensive university of moderate size that values close relationships among students, faculty, and staff in a diverse, supportive, and challenging intellectual environment.

The University of North Carolina at Wilmington, founded as Wilmington College in 1947, owes much of its development and dynamic character to its heritage and location. The student-centered philosophy of the university comes in part from its origin as a community college with small classes and extensive interaction between students and faculty. With growth, the focus has expanded to include graduate students, bringing increased opportunities for scholarly activities.

As the only public university in southeastern North Carolina, this institution bears a special responsibility for education and service. The university is committed to providing lifelong learning opportunities, assisting with the improvement of public school education, and enhancing the personal, cultural, and economic health of the region. Located in a historic port city, the university provides related experiences in cultural, commercial, and archeological studies. The proximity of the Atlantic Ocean enables the university to be a leader in marine studies and provides an exceptional opportunity to teach and practice environmental awareness and responsibility. The university is dedicated to the preservation of conservation areas on campus that are representative of ecosystems in the region. The university seeks to stimulate in its students intellectual curiosity, imagination, rational thinking, thoughtful expression, and a love of learning. Knowledge of the humanities, social and natural sciences, and fine arts, along with effective communication and decision-making skills, are central to the curriculum. Students are encouraged to develop and understanding of their own and other cultures in order to appreciate the right variety of thought and lifestyles that form the world in which they live. The university offers programs to help students clarify values, develop physical well-being, work independently and interdependently, and participate in university governance. The university is committed to providing each student with opportunities, resources, and guidance to achieve personal, academic, and career goals.

Excellence in teaching and creative scholarly activity are fundamental for any university. The pursuit of knowledge and understanding complements effective teaching, sustains intellectual vitality, and is an important contribution to the larger community. Research and artistic endeavors are essential for faculty and students. The university encourages and supports scholarly work and seeks to attract energetic faculty with diverse interests and expertise.

The university provides a secure intellectual, social, and physical environment conducive to achieving its mission. Freedom of thought, expression, and association are fostered and protected. The continuing development of students, faculty, and staff, as well as the maintenance and development of academic and social programs of excellence, are ensured with funds from both public and private sources. Ongoing planning and assessment of services, programs, research, and instruction assure the productive use of resources and assets.

The university remains committed to planned growth, quality programs, and a strong sense of community. The evolution of the university will involve strengthening and expanding

- undergraduate education,
- marine science and marine-related activities,
- research, graduate, and professional programs,
- interdisciplinary programs,
- public service,
- international exchange programs for students and faculty,
- involvement in multicultural, social, environmental, and global issues of current and emerging importance,
- instructional and research resources, and
- campus facilities to meet educational, social, and recreational needs.

Through the activities of its students, faculty, and staff, the University of North Carolina at Wilmington seeks to educate and interact with the diverse community it reflects and serves. Fulfilling its mission strengthens the position of the university within the world academic community.

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of the University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the academic year 1946-47. In 1947, a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Education. In 1948, Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952, the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958, New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree. By vote of the Board of Trustees of the University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, the University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of the University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus the University of North Carolina now comprises 16 institutions. On August 22, 1977, the

Board of Governors of the University of North Carolina authorized the University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

In the spring of 1985, the Board of Governors of the University of North Carolina elevated the University of North Carolina at Wilmington to a Comprehensive Level I University.

The programs offered by the university include four-year programs leading to the Bachelor of Arts and Bachelor of Science degrees within the College of Arts and Sciences, the Cameron School of Business Administration, the School of Education, and the School of Nursing; graduate programs leading to the Master of Education, the Master of Science, the Master of Arts, the Master of Arts in Teaching, and the Master of Business Administration degrees; a variety of pre-professional programs; and special programs in a variety of areas, including marine science research, and continuing education.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the bachelor's and master's level; and the North Carolina Association of Colleges and Universities. The School of Education is accredited by the National Council for Accreditation of Teacher Education. The university also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support of Education, and is on the list of schools approved by the American Chemical Society.

THE FACULTY

The university seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 412 instructional and research faculty, more than 67 percent hold doctoral degrees.

STATEMENT ON DIVERSITY IN THE UNIVERSITY COMMUNITY

In an effort to address the needs of the total university community, the chancellor has endorsed the following statement of principle proposed by the Human Relations Advisory Committee. As an institution of higher learning, the University of North Carolina at Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity. Accordingly, the university supports policies, curricula and co-curricula activities that encourage understanding of an appreciation for all members of its community and will not tolerate any harassment of or disrespect for persons because of age, sex, color, race, religion, creed, national origin, sexual preferences, political belief or affiliation, handicap, veteran status, marital status, or membership in any organization. For more information concerning the ways that our multicultural learning community may be nurtured and protected, contact the Human Relations committee through the offices of the Chancellor or the Dean of Students.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of the University of North Carolina at Wilmington, in recognition of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

Recipients

1978 B. Frank Hall
1979 Frank Allen
1980 Steve Harper
1981 Gerald Shinn
1982 William F. Adcock (posthumously)
1983 Betty Jo Welch
1984 Anne B. McCrary
1985 Charles Richard Ward
1986 John H. Haley
1987 Saul Bachner
1988 C. Sue Lamb
1989 W. Lee Johnston
1990 C. Sue Combs

THE UNCW AWARD FOR FACULTY SCHOLARSHIP

The UNCW Award for Faculty Scholarship is designed to underscore this institution's continuing commitment to scholarship and creative work. Recipients of the award shall stand out among the faculty as persons who have made, and continue to make, a significant contribution to the university and the academic community through their commitment to scholarship, research, and creativity.

Recipient

1990 Donald F. Kapraun

THE FOUNDATION CHAIR

The Foundation of the University of North Carolina at Wilmington is a charitable, nonprofit corporation established for the sole purpose of supporting the university. Through private donations it supports a faculty chair, designated to assist the university in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the university to bring to this campus renowned scholars and performing artists. In filling the chair a special effort is made to select individuals whose contributions will benefit not only the university, but also the community at large.

THE CAMPUS

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 661-acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River and is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 118,000. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness to the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities. The spacious well-landscaped campus was first occupied by the university in 1961. The number of buildings has increased from three in 1961 to 70 today. There are several athletic fields and ample space for parking.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the cafeterias and residence halls, are completely air-conditioned.

Edwin A. Alderman Hall, which houses administrative offices, is named in honor of a native Wilmingtonian who served as president of the University of North Carolina, the University of Virginia and Tulane University.

Hoggard Hall, an academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the School of Nursing, laboratories, the Computing Center, Office of Special Programs, Office of Institutional Research, Office of Research Administration, and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the Fine Arts Department. It contains classrooms, faculty offices, art and music studios, the musical library, and electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

Will S. DeLoach Hall houses the departments of chemistry and physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and modern, well-equipped laboratories for the physical sciences.

Friday Hall, named in honor of UNC President Emeritus William C. Friday and his wife, Ida, was completed in 1974. It houses the departments of Biological Sciences and Earth Sciences and contains classrooms and laboratories.

Arnold Kimsey King Hall houses the School of Education and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory. Isaac Bear Hall, completed in 1972, contains the Graduate School and the Department of Mathematical Sciences.

Cameron Hall, occupied in 1988, houses the Cameron School of Business Administration.

Morton Hall, named for Margaret Shannon Morton, was completed in October 1978 and houses the departments of English, History, and Foreign Languages. The building contains classrooms, seminar rooms, and the Bryan Auditorium which seats 200.

The Social and Behavioral Sciences Building was completed in 1980. It houses the departments of Psychology, Philosophy and Religion, Political Science, and Sociology/Anthropology, as well as some offices of the campus computing center.

The Sarah Graham Kenan Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium is also equipped for use as a theatre and contains seminar rooms for the Department of Fine Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of all students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000-seat coliseum as well as an olympic-size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

The University Union is the "living room" of the university community. It houses a wide variety of services, student and administrative offices, while providing space for campus activities and meetings.

The University Center, opened in 1991, provides supplementary space to the University Union operation. In the building are housed the post office, the game room, a food facility and coffee house, the Office of Human Resources, and a large multi-purpose room which can be divided into as many as three smaller spaces. Areas of the multi-purpose room will be available to the university community and the community at large for meetings and conference proceedings.

Hinton James Hall, named for a New Hanover County resident who was the first student to enroll at the University of North Carolina, houses the Financial Aid Office, Registrar Services, Undergraduate Admissions, Cashier, and the office of the dean of the College of Arts and Sciences.

The University Student Support Center opened in the summer of 1985. Centrally located adjacent to the University Union, it houses the University Bookstore, Student Health Services, and Student Development Center.

Wagoner Dining Hall opened in 1989, providing space for food service for students and faculty. This facility, along with two other food service facilities, contains modern food service equipment which allows for many different food and catering services.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student residence hall, Addison Hewlett, Jr., Hall, opened in the fall of 1978. Another residence hall for 220 students, Frederick B. Graham Hall, was occupied in the fall of 1979. In the fall of 1981, the 400-student apartment complex was completed and occupied. Housing for an additional 160 students opened in the fall of 1985.

WILLIAM MADISON RANDALL LIBRARY

The William Madison Randall Library constitutes a vital instructional and research resource of the University of North Carolina at Wilmington. Named for the president emeritus of Wilmington College, the library, recently enlarged and completely renovated, provides seating for over 950 users and will accommodate a collection of 475,000 hardbound volumes in addition to various other collections of informational resources. The library now contains over 340,000 hardbound volumes and subscribes to some 4,950 serial titles. Extensive journal backfiles are maintained in bound volumes and in microformat. A large audiovisual collection containing resources in several formats is conveniently located on the first floor, and a 73-seat auditorium is equipped for various types of audiovisual use. Rare and unique items are housed in the Helen Hagan Rare Book Room. An online catalog and circulation system provides easy, efficient access to most of the library's collections.

The library is a partial depository for United States government publications, and the collection now consists of over 400,000 items in hardcopy and microtext. The library is a full depository for North Carolina documents. These materials are readily available to all of the library's users. The library also houses the Curriculum Materials Center, a specialized facility designed to support the teacher education program of the School of Education.

Maintaining a schedule of over 98 hours per week during the regular academic sessions, the library has established as its major goal the provision of an excellent program of services designed to facilitate and encourage maximum use of informational resources.

HERBERT BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Herbert Bluethenthal Memorial Wildflower Preserve is a tract of approximately 10 acres set aside on the campus by the university's Board of Trustees in response to a donation by Mrs. Herbert Bluethenthal of Wilmington. The preserve includes a wide variety of plant communities, marked trails to follow, and labeled plants to observe. It is dedicated to the preservations of the rich and varied flora of southeastern North Carolina and has been designed to provide a place of contentment and pleasure for those who enjoy and appreciate our native plants.

COMPUTING SERVICES

General academic computing support for student course-related instruction and research is provided through both terminal access to the central facility Digital Equipment VAX cluster computer systems and numerous microcomputers located throughout the campus. The central computer facility is supplemented by several supermicrocomputers and a SEQUENT Balance B8 parallel-processor system running the UNIX operating system in the Department of Mathematical Sciences; a complex of microcomputers in the Cameron School of Business Administration; and specialized use microcomputers in the areas of English, social sciences, biology, nursing, physics and earth sciences.

The central VAX cluster operates under the VAX/VMS operating system and supports such general use compilers and processors as COBOL, BASIC, PASCAL, PL/1, ADA, C, LISP, FORTRAN, a spreadsheet, wordprocessor, and statistical analysis and graphics packages including SAS and SPSS-X. Terminal emulation software is available for microcomputer interface to the VAX cluster. A campus-wide network provides access to the on-campus systems, as appropriate, and the Randall Library on-line public access catalog system. A variety of special equipment such as laser printers and plotters is available for general use.

The university is connected to BITNET, a communications network of more than 2,000 institutional and departmental computers at 375 institutions of higher education and research centers in the U.S.A., Canada, Europe and Asia; and Internet, a network of networks including NSFnet. Access to BITNET and Internet is restricted and to be used only for authorized university-related activities.

The CRAY Y-MP supercomputer located at the North Carolina Supercomputer Center, Research Triangle Park, is available to faculty and graduate students for appropriate and approved projects. Access to the supercomputer is through the UNCW data network. The intent is to provide all students maximum access to state-of-the art computing. Students must establish a user account to utilize the central VAX cluster and must abide by the rules and policies for use of the facilities including microcomputers. User guides for UNCW computing facilities are available in the campus bookstore. Contact Academic Computing Services for information on academic computing facilities and services.

OFFICE OF SPECIAL PROGRAMS

The Office of Special Programs plays a major role in fulfilling the UNC system's goal to make its resources and expertise available to the public through community services, consulting and technical assistance. Its mission centers on a "service" concept and programs are designed to cater to the needs of the community and state. These vary and are outlined below.

GENERAL PUBLIC, YOUTH, PROFESSIONAL DEVELOPMENT AND PUBLIC SERVICES

Public service programs are presented to raise awareness of events that affect daily life or contribute to personal enrichment. These non-academic activities include guest speakers, discussion groups, short courses, workshops and conferences covering topics ranging from local problems to international affairs.

A variety of short courses, conferences, and workshops are also specifically designed for businesses, industries and professionals. University faculty and other qualified individuals conduct programs in communications, management, planning, supervision, small business administration or other similar topics. Faculty from the Cameron School of Business Administration as well as external professionals conduct courses in business and a comprehensive series designed specifically for certified public accountants. On-site training seminars also are offered.

Special Programs also assists school systems with programs and courses for professional improvement of teachers. Courses are designed to meet certification and renewal requirements and/or provide general training for teachers and administrators. As another dimension of public service, the Office of Special Programs also assists community groups with scheduling university facilities for meetings, seminars and other activities.

CONFERENCE COORDINATION

Because the university is vitally interested in assisting both the general public and organizations, the Office of Special Programs provides conference coordination and services for groups whose mission coincides with the UNC System. Comprehensive services are "tailor-made" according to the needs of each group and can encompass meeting space, housing accommodations, food services, registrations of participants or marketing. These conferences, for groups ranging from 20 to 800 persons, can be for credit or non-credit, meeting for one day or many weeks. Special emphasis is given to recruiting non-profit groups with training/education purposes.

EXTENSION COURSES

Through the Contract Extension program, UNCW extension (academic) courses are offered on the freshman level at Bladen Community College in Dublin, Sampson Community College in Clinton, and Brunswick Community College Bolivia, North Carolina. The community colleges recruit and enroll students who are high school graduates or the equivalent. Students enrolled in the program who wish to become degree candidates at the university must apply and meet regular admission requirements for freshmen or transfer students.

Additional extension offerings also include undergraduate and graduate courses in the field of education at off-campus sites. Utilizing primarily UNCW faculty, these courses meet the staff development and/or graduate education requirements of local teachers.

Extension registrations are received by the Office of Special Programs, but requests for transcripts should be sent to the registrar of the University of North Carolina at Wilmington. Further information concerning all programs may be obtained by contacting the director of Special Programs.

CENTER FOR MARINE SCIENCE RESEARCH

The Center for Marine Science Research at the University of North Carolina at Wilmington is dedicated to providing an environment that fosters a multidisciplinary approach to questions in basic marine research. The mission of the center is to promote basic and applied research in the fields of oceanography, coastal and wetland studies, marine biomedical and environmental physiology, and marine biotechnology and aquaculture. Faculty members conducting marine science research in the departments of Biological Sciences, Chemistry, and Earth Sciences participate in this program.

The center fosters research programs of the highest quality and thereby enhances the educational experience provided by the University of North Carolina at Wilmington for both undergraduate and graduate students in marine science.

The center's primary facilities are located on a four-acre tract near the Intracoastal Waterway at Wrightsville Beach.

Encompassing 16,000 square feet, these facilities house 14 research laboratories, various science and administrative offices, a video equipment/editing room, a fully equipped machine tool shop, an aquatic specimens holding room, a seminar/conference room and a USDA-licensed animal facility. Additional laboratory space is available for research requiring constant flow-through seawater.

The center maintains eight research vessels ranging in size from 13 to 22 feet and specialized equipment including a Superphantom Remotely Operated Vehicle, a low temperature aquarium room, an atomic absorption spectrophotometer, and an extensive microscopy capability including transmission electron, inverted, phase-contrast, and confocal tandem scanning.

The Center for Marine Science Research serves as host for the NOAA sponsored National Undersea Research Center for the Southeastern United States. Based upon competitive proposals, NURC annually supports fisheries management, ocean-floor processes, and other research projects from the Gulf of Maine to the Gulf of Mexico.

STUDENT AFFAIRS

STUDENT AFFAIRS

The basic mission of the Division of Student Affairs is to encourage student use of personal, institutional, community, and other resources toward the goals of individual development, self-fulfillment, and a responsible citizenship. Its programs and services are directed toward assisting students in their educational and personal development

OFFICE OF THE DEAN OF STUDENTS

The Office of the Dean of Students serves as the primary focal point for addressing student needs, issues and concerns, and serves as a resource and referral office for all faculty, staff and students. Acting in an advocacy role, the dean and assistant dean of students represents the student perspective to the university community. This office works with all segments of the university to help students develop through opportunities, advice and assistance. Within the Student Affairs Division, the Office of the Dean of Students provides consultation, new program development and assistance to the vice chancellor with special projects. Specifically, the office assists in the coordination of orientation for freshmen and transfer students, advises international, non-traditional students and commuter students, publishes the *Student Handbook and Code of Student Life,* administers the student judicial system, including violations of the Academic Honor Code; coordinates the official withdrawal process from the university for undergraduate students; and assists the Office of Federal Compliance in processing cases of discriminatory personal conduct, including sexual harassment. Additionally, the Office of the Dean of Students coordinates programs and policy on rape prevention and assistance, substance abuse education and prevention, and implements developmental programs to meet assessed and perceived student needs. The Office of the Dean of Students also provides supervision for the Residence Life Program and ALTERNATIVES! the Substance Abuse Education and Prevention Program.

SERVICES FOR INTERNATIONAL STUDENTS

The Office of the Dean of Students works with all international students in all matters relating to their stay at the university. The assistant dean serves as the international student advisor and is available to assist international students on immigration, personal concerns, or academic matters. This office cooperates closely with other university staff and faculty members in answering questions or concerns raised by international students. Each new international student is required to report as soon as possible after his/her arrival to the Office of the Dean of Students, room 209, University Union, telephone (919) 395-3119.

ALTERNATIVES!

The Alternatives! program is responsible for providing a systematic and comprehensive set of services for substance abuse education and prevention to all segments of the university community. The center serves as a highly visible and accessible multi-media resource area containing drug education materials, as well as information on alternatives to drug use. Personal growth and self-concept enriching experiences are provided to students through alternative learning opportunities. The center serves as a clearinghouse for other campus and community resources and provides consultation, information, or referral as appropriate. Additional educational opportunities for the entire campus are offered as needed. The terms "substance" and "drug" are intended to include all psychoactive chemicals including alcohol, stimulants, depressants, opiates, and hallucinogens.

UNIVERSITY UNION

The University Union exists to provide support and give direction to out-of-classroom learning. Based on the philosophy that the process of learning is not confined to the classroom, but instead is a constant and ongoing process, the mission of this department is to facilitate the educational process by providing a laboratory experience for student growth, and an arena for the development of cultural, social, and recreational awareness. This is accomplished through the administration of the University Union and University Center facilities, programs and services, providing resources to student organizations, and serving as the campus's central point of reference in regard to student activities and organizations.

STUDENT DEVELOPMENT CENTER

The Student Development Center provides confidential individual and group counseling for personal, social, career or educational concerns. Decision-making resources for careers and college majors include a computer guidance system, interest testing, and an information library. Special assistance is offered with learning strategies, study, reading and exam-taking skills. Workshops are regularly scheduled on these topics as well as on personal growth, communication skills and stress management. As part of the university substance abuse education and prevention program, the center also provides a substance abuse assessment, referral and treatment for students.

The center acts as a clearinghouse for disabled students' concerns and assists with tutoring, equipment and advocacy needs. The office also administers national testing programs such the GRE, GMAT, NTE, MAT, and LSAT.

Consulting and referral services are provided by the center's staff for university faculty, staff and student groups.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center provides career planning and placement services to students and alumni of UNCW. Assistance in developing career plans is available through individual advising, workshops and seminars. The office also provides information and counseling on careers, specific job requirements, employers, and graduate school programs. Students are encouraged to use these services early in their college career.

The office publicizes specific job openings (part-time, summer and full-time); makes individual referrals; schedules recruiting visits; maintains company recruiting literature; and provides information about public and private schools, and state and federal government opportunities.

Seniors should register with the Career Planning and Placement Center in their junior or early in their final year to establish a credentials file and to avail themselves of all placement services including resume writing, interviewing skills and job search training.

RESIDENCE LIFE PROGRAM

The Office of Residence Life, located in Residence Life Activity Center, is responsible for the development of educational, cultural and social programs to enhance student life on campus. The goal of the Residence Life program is to create an environment conducive to academic pursuits and personal grwoth of resident students. Over 45 Resdience Life staff are responsible for the supervision of resident students in the residence halls, on-campus apartments, and suite-style buildings. The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and

laundry facilities are available. The Residence Life program offers opportunities for student employment, leadership positions through hall governance, and services of an eleven acre recreation field. Students living on campus are required to participate in the university dining hall program.

FOOD SERVICE

The UNCW Food Service operation is committed to providing quality food products served in clean and comfortable facilities. The program is available to all students, faculty, and staff seven days a week when classes are in session. Wagoner Dining Hall, built in 1989, is a modern 600-seat facility that serves unlimited seconds on every meal. Cash operations include: The Hawk's Nest, located in the University Union; Center Stage Cafe, located in the University Center; a pizza delivery program, and a convenience store located in Apartment Building M.

Information about commuter student meal plans is available at the Housing and Food Service Office in Wagoner Hall (395-3178).

STUDENT HEALTH AND WELLNESS CENTER

The Student Health and Wellness Center (SHWC) located in the Burney Student Support Building is open 8:30 a.m to 5:00 p.m., Monday through Friday. For urgent care after 5:00 p.m. during the week and all weekend, a practioner is on call to provide information and or referral medical care.

The Student Health and Wellness Center (SHWC) provides diagnosis and treatment of general and acute medical problems. The health fee is part of the student fee and entitles students taking six or more credit hours* (living on or off campus) to health care services.

In addition to the treatment of general medical problems, the scope of services include: laboratory testing to diagnose a variety of medical problems, allergy injections, gynecologic examination and counseling, weight control and nutrition counseling, smoking cessation, crisis intervention, and referral as indicated. The Student Health and Wellness Center does not issue excuses for class absences due to illness.

Each newly admitted UNCW student is required to have the following forms on file in the SHWC prior to enrollment: 1) a completed and up to date Report of Medical History and Physical Examination and 2) a complete and up to date Immunization Record required by the N.C. Immunization Law (General Statues 130A-152).

*Students taking less than six hours will be entitled to health care services upon payment of the health fee and will be required to have the above forms on record.

STUDENT HEALTH INSURANCE

The student health fee covers most medical care given at the Student Health and Wellness Center on a prepaid basis. The health fee will not cover the costs of a student who requires hospitalization or specialty care. It is strongly recommended that students who are not covered for major medical expenses (serious injuries due to accidents or hospitalization) under their family health insurance contact the SHWC or the Office of the Dean of Students for information and forms regarding the Student Group Health Insurance Plan available at a nominal cost through the university.

OFFICE OF HEALTH PROMOTION/LivWell

The Office of Health Promotion/LivWell is the outreach wellness program of the Student Health and Wellness Center designed to encourage and promote healthy lifestyle choices and behaviors on campus. The center provides the campus community an informal setting

where a wide variety of wellness resources can be used. These include drop-in services for self-care opportunities such as blood pressure checks, cold care, weight scales, and extensive video-resource library and individual consultants on lifestyle issues and concerns. LivWELL serves as a site for student work opportunities and sponsors regular seminars and campus wide health promotion events throughout the year.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington routinely has made public certain information about its students. Typically, UNCW releases the names of students who are selected by the various honorary societies, receive scholarships, make the Dean's List, hold offices, or are members of athletic teams. The annual commencement program publishes the names of persons who have received degrees from UNCW during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following information: the students name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The university will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing. Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration thereafter.

STUDENT CONDUCT

The filing of an application of admission shall be construed as both an evidence and pledge that the applicant accepts the standards and regulations of The University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, is obligated to obey all rules and regulations of the university as stated in the *Student Handbook and Code of Student Life,* the university catalogue and other university publications. The university reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

A policy statement was adopted by the Board of Trustees of the former consolidated University of North Carolina on October 26, 1970. It is set forth in Chapter V of the Code Provisions Governing The University of North Carolina, and is set forth in full in the *Student Handbook and Code of Student Life.*

POLICY STATEMENT ON ILLEGAL DRUGS

Students, faculty members, administrators, and other employees of the University of North Carolina at Wilmington are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or manufacture those drugs designated collectively as "controlled substances" in Article 5 of Chapter

90 of the North Carolina General Statues. A copy of this law is available in the following offices: Personnel, Dean of Students, and Academic Affairs. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. In accordance with policy adopted by the Board of Governors of the University of North Carolina and the Board of Trustees of UNCW, disciplinary proceedings against a student, faculty member, administrator, or other employee will be initiated when the alleged conduct is deemed to affect the interests of UNCW., Penalties will be imposed for violation of the policies of UNCW only in accordance with procedural safeguards applicable to disciplinary actions against students, faculty members, administrators, and other employees. The penalties that may be imposed range from written warnings with probationary status to expulsions from enrollment and discharges from employment. For more information, please refer to the *Code of Student Life, The Code of The University of North Carolina (Section 603)* and Personnel Procedure No. 610.

Every student, faculty member, administrator, and other employee of UNCW is responsible for being familiar with, and complying with, the terms of the policy on illegal drugs adopted by the Board of Governors of The University of North Carolina and the Board of Trustees of UNCW. Copies of the full text of the policy appear below as well as in the *Code of Student Life, Faculty Handbook,* and it is available in the Office of Human Resources.

POLICY ON ILLEGAL DRUGS

Introduction

The fundamental purpose of The University of North Carolina at Wilmington (UNCW) is to maintain an environment that supports and encourages the pursuit and dissemination of knowledge. That environment is damaged by illegal drug use. Therefore, all members of the academic community, students, faculty members, administrators, and other university employees, share the responsibility for protecting the environment by exemplifying high standards of professional and personal conduct.

Policy and Program

A. The illegal use, possession, sale, delivery and/or manufacture of drugs will not be tolerated and may be grounds for immediate suspension or dismissal of students, faculty members, administrators and other university employees.

B. UNCW policies and programs are intended to emphasize:
   1. The incompatibility of the use or sale of illegal drugs with the goals of the university.
   2. The legal consequences of involvement with illegal drugs.
   3. The medical implications of the use of illegal drugs.
   4. The ways in which illegal drugs jeopardize an individual's present accomplishments and future opportunities.

C. UNCW will provide a systematic substance abuse education and prevention program designed to reach all segments of the campus community. To assist in accomplishing this mission, the Center for Substance Abuse Education and Prevention is developing a well-integrated centralized program that is a focal point for campus substance abuse education, training and prevention, and will monitor the effectiveness of programs for constituencies served. This center provides substance abuse counseling and referral services on campus and in the external community. It also provides consultative services to offices and agencies in the university environment

and collaborates with the employees assistance coordinator in the Office of Human Resources to develop counseling and referral services for faculty and staff desirous of seeking assistance off-campus. This UNCW policy is presented within the four areas of education, counseling and rehabilitation, enforcement and penalties, and assessment.

ducation

A. Provide a system of accurate, current information exchange on the health risks and symptoms of drug use for students, faculty and staff.

B. Promote and support institutional activity programming that discourages substance abuse.

C. Establish collaborative relationships between community groups and agencies and the institution for education, treatment and referral.

D. Provide training programs for students, faculty, and staff to enable them to detect problems related to drug use, and to refer persons with these problems to appropriate assistance.

E. Include information about drugs for students and family members in the student orientation programs. The use of prescription and over-the-counter drugs will be addresses.

F. Support and encourage faculty in incorporating education about drugs into the curriculum where appropriate.

G. Develop a coordinated effort across campus for drug related education, treatment and referral.

ounseling and Rehabilitation

A. UNCW provides information about drug counseling and rehabilitation services available to members of the university community. Persons who voluntarily avail themselves of university services can be assured that applicable professional standards of confidentiality will be observed. Counseling and rehabilitation services include:

1. Provision of training for professional staff and student staff on drug abuse information, intervention and referral.
2. Conducting education programs for students who have demonstrated abusive behavior with drugs.
3. Conducting individual and group counseling for members of the university community with drug problems.
4. Conducting drug abuse assessments.
5. Coordinating referral and follow up of campus individuals and developing a referral and follow up mechanism in collaboration with the employee assistance coordinator in the Office of Human Resources.
6. Organizing campus self-help groups.
7. Providing consultation, information and referral for students, staff and faculty with drug problems.
8. Designing and developing referral opportunities for members of the university community who desire to seek professional assistance beyond the campus. This will be done in cooperation with the employee assistance coordinator in the Office of Human Resources.

9. Providing with peer involvement a system of intervention and referral services for students, faculty and staff.

B. In providing the above prevention strategies, it is recognized that some campus constituents may prefer professional assistance external to the campus. The campus community substance abuse education and prevention program coordinator will collaborate with the employee assistance coordinator in the development of appropriate referral mechanisms for these individuals. A listing of off campus resources for assistance and referral will be made available for those who choose that option. In the development of this program, it is desired that faculty, students, administrators and other employees be comfortable in the manner in which they are served and have a choice in the selection of appropriate assistance. Individuals served in the counseling program on campus can be assured that confidentiality will be maintained and that they will be served by professionals.

Enforcement and Penalties

A. Enforcement

In seeking to enforce established university policy, the University of North Carolina at Wilmington will:

1. Publicize all drug policies.
2. Consistently enforce drug policies.
3. Exercise appropriate disciplinary action for drug policy violations.

B. Penalties

UNCW shall take actions necessary, consistent with state and federal law and applicable university policy, to eliminate illegal drugs from the university community. University policy on illegal drugs will be publicized in the university catalogue, student and faculty handbooks, student orientation materials, letters to students and parents, residence hall meetings and faculty and employee meetings.

Students and faculty members, administrators, and other employees are responsible as citizens for knowing about the complying with the provisions of the North Carolina law that makes it a crime to possess, sell, deliver, or manufacture drugs designated collectively as "controlled substances" in Article V, Chapter 90 of the North Carolina General Statutes. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. It is not "double jeopardy" for both the civil authorities and the university to proceed against and punish a person for the same specified conduct. The university will initiate its own disciplinary proceedings against the student, faculty member, administrator, or other employee when the alleged conduct is deemed to affect the interest of the university.

Penalties will be imposed by UNCW in accordance with procedural safeguards applicable to disciplinary actions against students (see *Code of Student Life,* Section II), faculty members (see Policies of Academic Freedom and Tenure, UNCW, Section VII), and administrators and other employees (see Procedure No. PER 6.10 and Personnel Policies of Designated Employment Exempt from State Personnel Act - EPA Administrative Positions).[1]

The penalties to be imposed by the university may range from written warning with probationary status to expulsion from enrollment and discharge from employment; however, the following minimum penalties shall be imposed for the particular offenses described.

1. Trafficking in Illegal Drugs
   a. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell, or deliver any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, heroin, mescaline, lysergic acid diethylamide, opium, cocaine, amphetamine, methaqualine), any student shall e expelled and any faculty member, administrator, or other employee shall be discharged.
   b. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell or deliver, any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, marijuana, pentobarbitals, codeine), the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   For a second offense, any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
2. Illegal Possession of Drugs
   a. For a first offense involving the illegal possession of any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-90, the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   b. For a first offense involving the illegal possession of any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, the minimum penalty shall be probation, for a period to be determined on a case-by-case basis. A person on probation must agree to participate in a drug education and counseling program, consent to regular drug testing, and accept such other conditions and restrictions, including a program of community service as the chancellor or chancellor's designee deems appropriate. Refusal or failure to abide by the terms of probation shall result in suspension from enrollment or employment for any unexpired balance of the prescribed period of the probation.
   c. For the second or other subsequent offenses involving the illegal possession of controlled substances, progressively more severe penalties shall be imposed, including expulsion of students and discharge of faculty members, administrators, or employees.
3. Suspension Pending Final Disposition
   When a student, faculty member, administrator, or university employee has been charged by UNCW with a violation of policies concerning illegal drugs, he or she may be suspended from enrollment and/or employment before initiation or completion of regular disciplinary proceedings if, assuming the truth of the charges, the chancellor, or in the chancellor's absence, the chancellor's designee concludes that the person's continued presence within the university community would constitute a clear or immediate danger to the health or welfare of other members of the university community; provided that, if such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held as promptly as possible thereafter.

Assessment

A. UNCW shall in its effort to continually assess the campus environment:
   1. Appraise the institutional environment as an underlying cause of drug abuse.
   2. Assess campus awareness, attitudes, and behaviors regarding the use of drugs and employ results in program development.
   3. Collect and use drug related summary information from policy and security reports to guide program development.
   4. Collect and use summary health, counseling, and client information to guide program development.
   5. Collect summary data regarding drug-related disciplinary actions and use it to guide program development.

B. Annually, the chancellor shall submit to the Board of Trustees a report of campus activities related to illegal drugs for the preceding year. The report shall including the following:
   1. A listing of major education activities conducted during the year;
   2. A report on any illegal drug related incidents, including any sanctions imposed;
   3. An assessment by the chancellor of the effectiveness of the campus program; and
   4. Any proposed changes in university policy on illegal drugs. The chancellor shall provide a copy of his report to the president.

[1] Rules of the State Personnel Commission govern the disciplinary actions that may be taken against SPA employees. Under current commission regulations discharge, rather than suspension, is the applicable penalty for SPA employees in those instances where this policy otherwise requires suspension.

STUDENT LIFE

STUDENT LIFE

UNIVERSITY UNION/UNIVERSITY CENTER

Student life is enriched at the University of North Carolina at Wilmington by a broad spectrum of activities, most of which occur in or around the University Union and University Center. The union is a 53,000 square-foot facility that houses students organization offices, conference rooms, lounges, study areas, snack bar, rental lockers, the University Information Center, and an assortment of student services. Across the street from the union is a new 43,000 square-foot University Center, with the U.S. Post Office, automatic teller machines, recreation and games facilities, lounges, a snack bar and space for large or small events. Both buildings have art galleries with monthly exhibits open to the public. With the belief that education is not bound to the classroom, it is the union's goal to educate, entertain and enlighten the university community, while providing a laboratory for student growth and an arena for development of cultural, social and recreational awareness.

STUDENT ACTIVITIES OFFICE

The Student Activities Office, located in the University Union, works to expand and complement the student's education by providing support to the approximately 80 student organizations that are officially registered on campus. The Student Activities Office assists organizations with the planning, execution and evaluation of events and activities that are not only entertaining, but also educational. The office provides expertise in the areas of activity programming, contract negotiation, university policy and procedure explanations, budget preparation, publicity and promotion and organization development.

THE LEADERSHIP CENTER

The Leadership Center, located in the University Union, provides a comprehensive program that promotes student and organizational development and awareness of contemporary issues through leadership training, education and development activities. These activities are varied, but include workshops, retreats, publications, speakers, resources, seminars, consultations, and self-assessments. Through collaboration among Student Affairs staff and academic faculty, a cohesive program encourages students how to recognize, evaluate and cultivate the potential strengths within themselves and others.

These programs improve the quality of the overall campus experience by providing opportunities to learn about and practice leadership. Ultimately, the program goal is to create a dynamic process that will continue after the college experience and encouraging students to improve the world as active citizens in our changing democracy.

MINORITY AFFAIRS OFFICE

The Minority Affairs Office is responsible for the implementation of programs and activities designed to enhance the overall experiences of minority students at UNCW. Through direct sponsorship of or participation in Minority Visitation Day, orientation, workshops, recruitment, a minority mentor program, the tutorial assistance program, and other activities, the office provides an added dimension to the traditional services offered to UNCW students. All students are invited to visit the office, in room 211 of the University Union, or call 919-395-3832, to discuss ways in which the office may be of service.

UNIVERSITY INFORMATION CENTER

The Information Center, located on the first floor of the University Union, provides a variety of information on campus, student and community activities. The center also sells discount movie tickets, concert tickets, and is the repository for campus lost and found items.

POSTAL SERVICES

A U.S. Post Office, which provides all postal service, is in the University Center. UNCW provides each student with a post office box where all mail (except grades) is delivered. This box is the official means by which students receive university mail.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the university is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interest of the university and upholding a high standard of morals and conduct. It is responsible for the disbursement of half of the student activity fee. This money supports the Student Government Association in its objectives and campus activities. The association is a member of the North Carolina Association of Student Governments.

ASSOCIATION FOR CAMPUS ENTERTAINMENT (ACE)

The Association for Campus Entertainment coordinates the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, recreational, and cultural growth for students and the campus community. ACE is comprised of the following committees: Arts/Lecture, Film-Video, Concert, Cultural Arts, and Special Events. The board is a member of the National Association for Campus Activities.

STUDENT ORGANIZATIONS

A variety of social, academic, and service organizations enhances student life at UNCW. National sororities and fraternities are established on the campus to recognize students for their leadership and service activities. Several departments in the university have locally and nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. Students are encouraged to contact the Office of Student Activities for specific information relative to a student organization.

MEDIA AND PUBLICATIONS

The Seahawk, the student newspaper, is published weekly. Its staff is composed entirely of students.

The Fledgling, the student-produced yearbook, contains the usual features of a college annual.

The Atlantis, a literary magazine, is published by students each semester.

The Channel Marker is a newsletter and calendar published monthly by the Student Activities Office to provide information regarding the dates and times of campus events, and to relate information to student organizations.

The Student Handbook and Code of Student Life is the primary source of information regarding university regulations and campus life.

WLOZ, the campus cable radio station, is completely run by students. The station broadcasts daily.

ATHLETICS

The university holds membership in the National Collegiate Athletic Association, Eastern College Athletic Conference, and the Colonial Athletic Association.

Varsity intercollegiate teams are fielded for men in basketball, cross country, baseball, golf, soccer, tennis, swimming, and track and field. Variety intercollegiate teams for women are fielded in basketball, softball, tennis, volleyball, swimming, golf, cross country, and track and field.

EXPENSES

EXPENSES

The Board of Governors of the University of North Carolina reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Tuition and Fees (In effect at time of publication)

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to the University of North Carolina at Wilmington.

Full Time Charges Per Semester (nine or more semester hours):

	In-State	Out-of-State
Tuition	$260.00	$2,505.00
Fees	333.75	354.50
Total	$593.75	$2,859.50

The mandatory fees shown above support the following activities.

	In-State	Out-of-State
Athletic Fee	$ 91.50	$ 91.50
Health Services	49.00	49.00
SGA	19.00	19.00
Student Union	50.50	50.50
Intramurals	6.00	6.00
Postal	4.00	4.00
Physical Activities	18.00	18.00
Cultural Events	5.00	5.00
Student Union Facilities Debt	45.00	45.00
Physical Education Facilities Debt	25.00	25.00
System-Wide Academic Fee	20.75	41.50
Total	$333.75	$354.50

Certain courses have additional fees which increase the semester charges shown above. These fee courses are indicated in the course schedule for each semester.

Other Fees:

Application Fee (to accompany application, nonrefundable)	$15.00
Transcript Fee	2.00
Graduation Fee	35.00

Graduate students registering for nine or more semester hours will be charged at the full-time rate as shown above. Students scheduling fewer than nine semester hours will pay tuition and fees as follows:

Semester Hours	In-State Students	Out-of-State Students*
0-Thesis only	$157.50	$ 437.50
1-2	$108.75	$ 675.00
3-5	$179.00	$1,312.25
6-8	$277.50	$1,977.25
9 or more	$593.75	$2,859.50

The privileges of students taking fewer than nine hours per semester will be restricted to class attendance and use of the library; however, by paying a Special Use Fee of $18.00 per semester, these students will be entitled to use all physical education facilities which are available to full-time students.

*See information on residency at the end of this section.

No degree, diploma, transcript of credit, or grades will be furnished a student until all financial obligations to the university, other than student loans, have been paid. All previously incurred expenses and accounts at the university must be paid in full prior to preregistration or registration for a new term.

ON-CAMPUS LIVING

The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and laundry facilities are available. Residence hall, apartment and suite students are required to participate in the University dining hall program under one of the two meal plans. The University operates a modern, air-conditioned cafeteria building. Short-order food service is available in the Hawk's Nest located in the University Union, in the Center Stage Cafe located in the University Center, specializing in pizza and subs, and the convenience store located in apartment building M. Service is on a cash basis for non-boarding students. The Housing and Food Service operations are closed during Thanksgiving, Christmas, and spring breaks.

Meal Plan Options

A meal plan is required for all students living on campus. The options available are listed below. The student identification card also serves as the student meal card and must be presented at every meal. Student meal cards are not transferable to another student or guests.

Plan A: **9 meals and $100.00 balance = $650.00**

Any 9 meals during the 7 day week at Wagoner Dining Hall plus a $100 cash transferability that can be used at the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

Plan B: **19 meals per week = $745.00**

Allows you to eat 19 meals per week, 3 meals a day Monday through Friday, brunch and dinner on Saturday and Sunday. Students may opt to add cash for ($25 minimum) cash transferability in the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA or for guests at Wagoner Dining Hall.

Declining Balance Program

Students on either meal plan can put cash on their meal card by contacting the Housing and Food Service Office in Wagoner Dining Hall. A minimum of $25 can be placed in your account to be used at your discretion. Any balance left on the card at the end of the fall semester will be carried over to the spring semester. Any money left on the card at the end of the spring semester will be forfeited.

Food services are also available to non-resident students seven days a week. Off campus students have the choice of paying cash for meals or purchasing a meal plan through the Housing and Food Service Office.

1991-1992 SEMESTER ROOM AND BOARD RATES

Belk, Graham, Hewlett and Schwartz	
with 9 meal plan	$1,560.00
with 19 meal plan	$1,655.00
Galloway	
with 9 meal plan	$1,570.00
with 19 meal plan	$1,665.00
Apartment	
with 9 meal plan	$1,770.00
with 19 meal plan	$1,865.00
Double Suite	
with 9 meal plan	$1,670.00
with 19 meal plan	$1,765.00
Single Suite	
with 9 meal plan	$1,750.00
with 19 meal plan	$1,845.00

This contract is for the full academic year consisting of both fall and spring semesters. Room and board fees are per semester costs. Students entering into this agreement in the fall semester are liable for the room and board charges for the spring semester. No refund of room charges will be made once a student officially moves into a residence hall/apartment/suite. The University reserves the right to change the room and board rates without prior notice.

An advance room reservation deposit of $100.00, to be applied to the room and board account, must be remitted by each applicant, along with the complete application for room and board.

Those interested in obtaining information should contact:

Housing and Food Services Office
The University of North Carolina at Wilmington
601 South College Road
Wilmington, North Carolina 28403-3297

Summer Session

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

Refunds Tuition

Students who officially withdraws from the university on or before the last day of the registration (drop/add) period will receive a refund of the amount paid. Students withdrawing from the university after the drop/add period will be charged 10 percent of all semester charges for each week of classes that have been held that semester. This weekly charge begins with the first day of scheduled classes regardless of the actual date of enrollment.

No refunds will be made for withdrawals after the end of the ninth week of scheduled classes.

This refund policy applies to complete withdrawals from UNCW. Students who simply reduce their course load after the drop/add period, will receive NO refund reduction of fees whatsoever.

Refunds Financial Aid

Students who receive financial aid are not given refunds on financial aid received when charges are prorated due to withdrawal.

Refunds Housing

Housing agreements are effective for the full academic year. Agreements made subsequent to the beginning of the fall semester remain in effect until the close of the spring semester. Housing deposit and charges will not be refunded except as provided for below:

1. **New Students (incoming transfer students).** If a new student, after remitting the deposit and being accepted to on-campus housing, decides not to live on campus and gives notice of this decision in writing by May 15, 1991, in the case of application for the fall semester, or at least one month prior to the semester in the case of application for the spring semester, the deposit shall be refunded, less a $25.00 administrative charge. Requests for refund received after May 15, 1991, will be denied and the $100.00 deposit forfeited. This condition also applies to students remitting the deposit and accepted to on-campus housing after May 15, 1991.

2. **Returning Students (students currently or previously enrolled at UNCW).** The $100.00 housing deposit is non-refundable to returning students after being accepted to on-campus housing (exceptions being marriage, transferring to another institution or withdrawal from UNCW less $25.00 administrative fee). Notification must be received in the Housing Office, in writing, by May 15, 1991.

3. Room rent for either semester will not be refunded once a student officially moves into a residence hall/apartment/suite.

4. A pro rata refund of meal plan charges will be made to students who officially withdraw from the university.

Residence Status for Tuition Payment

The basis for determining the appropriate tuition charge rests upon whether a student is a resident or a nonresident for tuition purposes. Each student must make a statement as to the length of his or her residence in North Carolina, with assessment by the institution of that statement to be conditioned by the following:

Residence. To qualify as a resident for tuition purposes, a person must become a legal resident and remain a legal resident for at least 12 months immediately prior to classification. Thus, there is a distinction between legal residence and residence for tuition purposes. Furthermore, 12 months legal residence means more than simple abode in North Carolina. In particular, it means maintaining a domicile (permanent home of indefinite duration) as opposed to maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education. The burden of establishing facts that justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification, who must show his or her entitlement by the preponderance (the greater part) of the residentiary information.

Initiative. Being classified a resident for tuition purposes is contingent on the student's seeking such status and providing all information that the institution may require in making the determination.

Parent's Domicile. If an individual, irrespective of age, has living parent(s) or court-appointed guardian of the person, the domicile of such parent(s) or guardian is, prima facie, the domicile of the individual; but this prima facie evidence of the individual's domicile may or may not be sustained by other information. Further, nondomiciliary status of parents is not deemed prima facie evidence of the applicant child's status if the applicant has lived (though not necessarily legally resided) in North Carolina for the five years preceding enrollment or re-registration.

Effect of Marriage. Marriage alone does not prevent a person from becoming or continuing to be a resident for tuition purposes, nor does marriage in any circumstances insure that a person will become or continue to be a resident for tuition purposes. Marriage and the legal residence of one's spouse are, however, relevant information in determining residentiary intent. Furthermore, if both husband and his wife are legal residents of North Carolina and if one of them has been a legal resident longer than the other, then the longer duration may be claimed by either spouse in meeting the twelve-month requirement for in-state tuition status.

Military Personnel. A North Carolinian who serves outside the state in the armed forces does not lose North Carolina domicile simply by reason of such service. And students from the military may prove retention or establishment of residence by reference, as is other cases, to residentiary acts accompanied by residentiary intent.

Grace Period. If a person (1) has been a bona fide legal resident, (2) has consequently been classified a resident for tuition purposes, and (3) has subsequently lost North Carolina legal residence while enrolled at a public institution of higher education, that person may continue to enjoy the in-state tuition rate for a grace period of twelve months measured from the date on which North Carolina legal residence was lost. If the 12 months end during an academic term for which the person is enrolled at a state institution of higher education, the grace period extends, in addition, to the end of that term. The fact of marriage to one who continues domicile outside North Carolina does not by itself cause loss of legal residence, marking the beginning of the grace period.

Minors. Minors (persons under 18 years of age) usually have the domicile of their parents, but certain special cases are recognized by the residence classification statue in determining residence for tuition purposes.

(a) If a minor's parents live apart, the minor's domicile is deemed to be North Carolina for the time period(s) that either parent, as a North Carolina legal resident, may claim and does claim the minor as a tax dependent, even if other law or judicial act assigns the minor's domicile outside North Carolina. A minor thus deemed to be a legal resident will not, upon achieving majority before enrolling at an institution of higher education, lost North Carolina legal residence if that person (1) upon becoming an adult acts, to the extent that the person's degree of actual emancipation permits, in a manner consistent with bona fide legal residence in North Carolina and (2) begins enrollment at an institution of higher education not later than the fall academic term following completion of education prerequisite to admission at such institution.

(b) If a minor has lived for five or more consecutive years with relatives (other than parents) who are domiciled in North Carolina and if the relatives have functioned during this time as if they were personal guardians, the minor will be deemed a resident for tuition purposes for an enrolled term commencing immediately after at least five years in which these circumstances have existed. If under this consideration a minor is deemed to be a resident for tuition purposes immediately prior to his or her eighteenth birthday, that person on achieving majority will be deemed a legal resident of North Carolina of at least 12-months duration. This provision acts to confer in-state tuition status even in the fact of other provisions of law

to the contrary; however, a person deemed a resident of 12-months duration pursuant to this provision continues to be a legal resident of the State only so long as he or she does not abandon North Carolina domicile.

Lost but Regained Domicile. If a student ceases enrollment at or graduates from an institution of higher education while classified a resident for tuition purposes and then both abandons and reacquires North Carolina domicile within a 12-month period, that person, if he or she continues to maintain the required domicile into re-enrollment at an institution of higher education, may re-enroll at the in-state tuition rate without having to meet the usual 12-month durational requirement. However, any one person may receive the benefit of this provision only once.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal withdrawal from enrollment) must be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual enrollment. A resident status classification once assigned (and finalized pursuant to any appeal properly taken) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary division of the academic year.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial residence status classification for tuition purposes.

The initial classification of graduate students as in-state or out-of-state residents for tuition purposes is made by the Graduate School. Appeals for in-state status may be made to the campus appeals body, Out-of State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in *A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes.* Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the undergraduate Admissions Office and in Randall Library.

FINANCIAL AID FOR GRADUATE STUDENTS

MINORITY PRESENCE GRANT PROGRAM

Under the Board of Governors general Minority Presence Grant Program, black students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework, and demonstrate financial need. Preference is given to undergraduates.

ASSISTANTSHIPS

Graduate Teaching Assistantships are available on a limited basis in the Cameron School of Business Administration; School of Education; and the College of Arts and Sciences in the departments of Biological Sciences, Chemistry, Earth Sciences, English, History and Mathematics. A limited number of Graduate Research Assistantships are available through the Department of Biological Sciences. The admission application process determines the candidates for these awards. For information contact the specific department/school or the Graduate School.

FELLOWSHIPS/SCHOLARSHIPS

The Graduate School's Awards for New Scholars. A limited number of scholarships are available to students entering any of UNCW's graduate programs for the first time. Students do not apply for these scholarships. Instead, nominations originate with the departments, which submit their recommendations to the dean of the Graduate School. Criteria include evidence of exceptional scholarship, normally strong GRE scores (or their equivalent) and an excellent undergraduate GPA.

The Champion McDowell Davis Scholarship is available to students from any major. This scholarship covers tuition and fees, books and other selected expenses and is awarded to students based on academic achievement, leadership potential and demonstrated financial need. A selection committee is charged with selecting the recipients each year. Application can be made at the Financial Aid Office.

The Sylvia and B. D. Schwartz Graduate Fellowship Award may be awarded to any graduate student enrolled at the University of North Carolina at Wilmington. Recipients shall be determined by the Graduate School and will receive an amount equal to in-state tuition and fees.

The J. W. Jackson Scholarship has a $2,000 per year value and is restricted to a junior-senior or graduate student enrolled in the Cameron School of Business Administration. The scholarship is designed for students with high academic potential. Applications can be made in the Financial Aid Office. Students awarded this scholarship are eligible to reapply.

The Hans Langhammer, M.D. Memorial Scholarship is awarded annually to undergraduate or graduate minority student(s) who demonstrate financial need and academic potential. The scholarship(s) may be renewed if an overall 2.0 grade point average is maintained.

LOANS/COLLEGE WORK STUDY PROGRAM

The Mellie Hill Barlow Loan Fund is set up to provide no-interest loans to students at UNCW who are orphans or are from single-parent homes. The loans carry a legal obligation to be repaid. Applications can be made at the Financial Aid Office.

Students who are enrolled at least half time in the Graduate School at UNCW may apply for the following types of financial aid:

Stafford Loan Program provides loans to graduate students who qualify on the basis of financial need. Applicants complete the regular financial aid application process in addition to completing a loan application. Students may borrow up to $7,500 per academic year for five years. Repayment begins six months after the student ceases to be enrolled at least half time. The interest rate is calculated at eight percent for the first four years of repayment, but escalates to 10 percent during the fifth year of repayment. Borrowers may be given up to 10 years to repay their loans.

Supplemental loans for students provide funds to cover their college expenses in addition to those borrowed under the Guaranteed Loan program. These loans are available to independent graduate students who meet federal eligibility requirements, and attend school at least half time. In determining eligibility, the credit worthiness of the borrower is of primary importance. Students may borrow up to $4,000 per year for a cumulative total of $20,000. However, no student may borrow more than his cost of education minus other aid received. Repayment begins immediately with the first installment due 60 days after receipt of your money. A variable interest rate will be calculated annually based on a federal formula, but cannot exceed 12 percent.

Parent Loans for graduate students may be secured by the parent to assist in covering educational costs. Parents may borrow up to $4,000 per year for a combined total of $20,000. However, a parent may not borrow any amount that would make the total amount of financial assistance that both the student and the parent receive greater than the cost of attendance at UNC Wilmington. In determining eligibility, credit worthiness of the borrower is of primary importance. A variable interest rate will be calculated annually based on a federal formula. The new rate will begin each year, but cannot exceed 12 percent.

The College Work-Study Program, which is federally funded, provides part-time jobs on the UNCW campus for students who have financial need and who must earn part of their educational expenses. To be eligible for work-study, a student must be enrolled for at least half time and must be a citizen or permanent resident of the United States. The application and financial statement must demonstrate financial need.

For additional information, contact the Financial Aid Office.

GradEXCEL Educational Loan for Graduate Students offer graduate and professional students a signature loan based on projected future earnings, rather than on current income and creditworthiness. Annual loan amounts range from $2,000 to $7,500 (up to $12,000 for Graduate Law students) when a student borrows on his/her own, or up to $20,000 annually with a creditworthy co-borrower. Borrowers can choose between two interest rate options, and have three repayment options: (1) deferred principal and interest payments while enrolled; (2) deferred principal payments while enrolled; (3) fixed monthly payments of principal and interest. Repayment periods range from four to 20 years, depending on amount borrowed.

For more information or a GradEXCEL application, please call Nellie Mae at 1-800-634-9308 or (617) 849-3447, or write to: Nellie Mae, GradEXCEL Department, 50 Braintree Hill Park, Suite 300, Braintree, MA 02184.

Satisfactory Progress

To be eligible to receive or to remain eligible to receive financial aid funds, graduates must maintain "satisfactory progress" in their course of study. A determination of satisfactory progress incorporates two standards applied at the end of the regular academic year.

Standard one requires that full-time students must demonstrate successful completion of the following number of hours as determined by graduation requirements:

Master In Business. For full-time students 14 hours each academic year (approximately one-fourth of the total hours required for graduation). For half-time students seven hours each academic year (approximately one-eighth of the total hours required for graduation).

Master in Education and Master's in Arts or Sciences. For full-time students 12 hours each academic year (approximately one-third of the total hours required for graduation). For half-time students six hours each academic year (approximately one-sixth of the total hours required for graduation).

In the case of a student who changes his enrollment status from fall to spring semester, the hours which must be completed will be averaged.

Standard two involves a qualitative measurement that determines that the graduate student needs to be making satisfactory progress. Any student receiving grades of C on any three courses or on 12 semester hours (whichever comes first) or any grade of F is not considered to be making satisfactory progress and is not eligible for continued financial aid.

The standards for progress outlined for financial aid recipients are not applicable for purposes of continued enrollment, since such determinations will be made by the university in accordance with institutional policy. Aid students who fail to meet the above standards will

be dropped from financial aid after the spring semester and will not be reinstated until the standards are met. Students terminated from aid because of failure to meet satisfactory progress standards may reapply when mitigating circumstances exist by using the appeal process outlined in the Financial Aid Booklet. All such appeals relating to satisfactory progress must be made within 30 days following the completion of the spring semester.

Time Limitation Policy

In determining eligibility for financial aid, the graduate student is allowed up to one additional year beyond the determined full-time tract to complete the graduate degree program.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the university. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved. For further assistance, contact the veterans coordinator in the Student Financial Aid Office.

ACADEMIC REGULATIONS AND PROCEDURES

ACADEMIC REGULATIONS AND PROCEDURES

REGISTRATION

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in graduate programs are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

PREREGISTRATION

Preregistration for students currently enrolled is held each semester. Students who complete preregistration and who pay fees by the designated date are registered except in the event that they are declared academic ineligible at the end of the preceding semester. Graduate students receive notification from their advisors, through their campus post office box, regarding an appointment time to discuss their schedule. They will be given a permit to preregister at the time of their appointments.

COURSE CREDIT

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to the Graduate School, except as described in the paragraphs below.

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or school dean, as appropriate, and (2) present it to the dean of the Graduate School for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Graduate courses taken at this institution before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit. A maximum of 10 hours may be applied toward the degree. Degree-related extension courses offered at this institution may be applied toward a graduate degree as follows: (a) with the approval of the appropriate dean, a non-degree student may apply for a maximum of six hours of relevant courses as transfer credits at the time of admission to a program, (b) with the prior approval of the appropriate dean, a student who is already admitted to a degree program may apply up to six hours of relevant courses toward the residence requirement. Requests for application of an additional six hours toward the residence requirement may be submitted to the dean of the Graduate School.

TRANSFER OF COURSE CREDIT

A maximum of six semester hours of graduate credit may be transferred from another accredited institution in partial fulfillment of the total hours required for the master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition the Graduate School for transfer of more than six semester

hours. Each such petition must be accompanied by a statement of endorsement from the appropriate dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the dean of the Graduate School only upon recommendation of the dean of the school or college in which the student is enrolled. The Graduate School must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree. Transfer of credit does not reduce minimum residence requirements for a master's degree.

A graduate student who wishes to take one or more courses elsewhere for graduate degree credit must obtain prior approval from the appropriate dean and the dean of the Graduate School.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate program and do not carry either course or residence credit.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing, but all such courses are recorded as part of the official record.

ADDING, DROPPING, WITHDRAWING

Courses may be added only in the official drop/add period, which is noted in the Calendar of Events. To add a course, the student must present to the registrar a drop/add card signed by his or her graduate coordinator/advisor and the course instructor. Every course for which a student is registered must be either completed or formally dropped; however, no course may be dropped in the last five weeks in a semester or during the last week of summer session.

To drop a course, the student must obtain a Schedule Revision Card from his or her advisor. If the advisor approves, the student must obtain the instructor's signature and indication of whether the student is passing or failing the course. The Schedule Revision Card must then be presented to the registrar for approval.

If, at the time a student drops a course, performance in that course is judged by the instructor to be passing, a grade of WP is assigned on the student's permanent record; however, if the student is judged by the instructor to be failing, a grade of F is assigned on the student's permanent record, and the student becomes ineligible for further registration.

A student may not use a Schedule Revision Card to drop his or her only course, but must officially withdraw from the university. To withdraw officially from the university, a student must come to the Graduate School and complete a permit to withdraw.

GRADUATE GRADING

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

A (4 qp) - excellent
B (3 qp) - completely satisfactory
C (2 qp) - minimally acceptable
F (0 qp) - failure
S - satisfactory progression (thesis)
I - work incomplete
WP - withdraw passing

GRADES OF INCOMPLETE

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The instructor may set the maximum allowable period for completion of the course work, but in no case will the extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the dean of the Graduate School. If, within 12 months, a change of grade has not been submitted by the instructor, the incomplete automatically becomes an F.

RETENTION POLICY

Three grades of C or one grade of F results in dismissal from the graduate program. Further, if a student falls below a 3.0 gpa at any time, he or she goes on academic probation and has three subsequent courses to bring the gpa up to at least 3.0. In addition, a student must have at least 3.0 gpa in order to begin any program-specific comprehensive examination and/or thesis work.

MINIMUM COMPETENCY REQUIREMENT

Individual graduate programs may designate certain courses as requiring minimum competence of B. Any student receiving a C in such a course must repeat it and receive a grade of B or better. Such courses may be repeated only once, and failure to receive a B or better grade on the repetition will result in dismissal from the graduate program. Both the initial C and subsequent grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

POLICY ON REPEATING COURSES

A student who has received a grade of C may repeat that course once. Both the first and second grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

RETENTION BY APPEAL

Students who have been dismissed from the graduate program and readmitted by special action of the graduate dean shall have their subsequent retention policy determined individually by the dean.

GRADUATION

A student must have no less than a 3.0 gpa on all graduate-level courses. Grades of A,B,C,F,S, and WP are permanent grades and can be changed only the dean of the Graduate School in cases of arithmetical or clerical error or as a result of protest of grade.

PROCEDURE FOR PROTEST OF GRADE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeals must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the dean of the college or school within which the protested grade was awarded. By conferring with the student and the instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will

transmit the written appeal to the dean of the Graduate School. The dean of the Graduate School will convene the Grade Appeals Committee.

The Grade Appeals Committee will consist of the graduate dean as chairman and five members of the graduate faculty appointed by the graduate dean. If the committee affirms the instructor's decision, the graduate dean will notify in writing the faculty member, the student, and the appropriate dean. If the committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be appealed further.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examination at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of this desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period. Rescheduling of a final examination for an entire class requires the approval of the appropriate dean.

TRANSCRIPTS

Transcripts are issued to students at the cost of $1.00 each. All requests for transcripts must be in writing and must include the student's signature.

INDEBTEDNESS

All indebtedness to the university must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar of any change in name or permanent mailing address.

SAFETY AND HEALTH PROGRAM

UNCW's safety program complies with the State Occupational Safety and Health Act of 1973.

RESIDENCE CREDIT COMPUTATION

Conversion of semester hours to residence credit is on the following basis:

1. Nine or more semester hours in a given semester earn a full semester of residence.
2. Six to eight semester hours earn one-half semester of residence.
3. Three to five semester hours earn one-fourth semester of residence.
4. Credits earned in any summer session count towards residence credit on the same basis as courses taken in regular semesters.

MASTER'S DEGREE EXAMINATION

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or school. Neither examination may be taken until the course work is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the dean of the school or college in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination.

A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor. A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the dean of the Graduate School. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

REGISTRATION FOR THESIS

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only courses for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of university faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of university faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded.

FOREIGN LANGUAGE REQUIREMENT

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in

a given program must be one of the options approved for that program by the Graduate School.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such a requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her dean will be asked to certify on the application of candidacy that such a requirement has been met.

APPLICATION FOR ADMISSION TO CANDIDACY AND FOR THE DEGREE

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree, but fails to meet a deadline for a particular graduation, he or she must contact the Graduate School to specify a new graduation date.

DEGREE TIME LIMITS

A graduate student has five calendar years to complete his or her degree program. The five-year period begins with the student's first term of work after formal admission to a degree-granting program. Work completed as a non-degree student does not initiate the five-year period for completing a degree program. Courses taken more than five calendar years prior to the admission of a student into a degree program at UNCW normally are not accepted for credit toward fulfilling the requirements of the student's degree program. In some cases, however, with approval of the student's advisory committee and department/unit chair, a student may petition the Graduate School to accept for credit work that is more than five years old.

When extenuating circumstances warrant, an extension of the time limit for completing a graduate program may be granted to a student upon his or her petition to the dean of the Graduate School. Such petitions must include an explanation and the endorsement of the student's advisory committee and academic unit's chair or dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of each individual.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. Complete details may be found in the current *Student Handbook and Code of Student Life* and in the *Faculty Handbook.*

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. All faculty members are responsible for setting policy concerning the role of attendance in determining grades for their classes. It is the responsibility of the students to learn and comply with the policies set for each class in which they are registered.

THE GRADUATE SCHOOL

THE GRADUATE SCHOOL

Eric G. Bolen, Dean

The Graduate School at the University of North Carolina at Wilmington administers programs of study leading to the Master of Business Administration degree, the Master of Education degree, the Master of Arts in Teaching degree, the Master of Science degree in biology, chemistry, geology, mathematics, and marine biology, and the Master of Arts degree in English, history, and mathematics.

Each of these programs provides capable students with an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development. Fuller descriptions of these programs appear separately in the following pages.

ADMISSIONS: MASTER'S DEGREE PROGRAM

GENERAL ADMISSION REQUIREMENTS

For admission to a graduate degree program at the University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. For information on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT) contact the University Student Development Center. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking, or have taken, graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNCW. **Applications for admission to most graduate degree programs should be filed in the Graduate School at least sixty (60) days in advance of the term in which admission is sought; some programs require earlier deadlines.** If admitted applicants do not register for the term specified in this application, their admission will be subject to review at a later date. A student who leaves the university and who does not register for at least one semester must apply for readmission to the Graduate School. Each student admitted to a graduate degree program must have a completed medical report form on file at UNCW before initial registration may be effective. In addition, an immunization record for each newly admitted UNCW graduate student, regardless of status, is required by law to be on file at UNCW prior to enrollment.

Graduate students are subject to the same university policies and regulations as undergraduates unless otherwise stated. Specific admission requirements are listed under each master's degree program.

NON-DEGREE STUDENTS (Special Graduate Status)

In some cases, students who are not seeking a graduate degree may be permitted to take graduate courses. Such permission to take graduate courses does not constitute admission to a graduate degree program. Non-degree graduate students are not candidates for degrees. Enrollment must be maintained in at least one graduate course each semester. The undergraduate grade-point averages for non-degree graduate students are expected to meet the same standards that apply to the admission of graduate students in full standing. Students that are later accepted to a degree program may, with approval, have up to 10 hours applied toward the degree. Normally, non-degree status is not available and does not apply

to students interested in taking courses in the Cameron School of Business Administration. Any individual having an interest in applying for admission as a non-degree graduate student should contact the Graduate School.

ADMISSIONS - INTERNATIONAL STUDENTS

International students must present evidence of their ability to speak, read, and write the English language and to meet fully the financial obligations associated with their study at the university. Students from foreign countries where English is not the primary language must present the results of the TOEFL examination (Test of English as a Foreign Language) as a part of their application for admission. A minimum score of 550 is required for admission to all programs, but this score does not guarantee acceptance. A financial responsibility statement and proof of accident and hospital insurance must also be submitted.

RE-ENROLLING

A student who leaves the university and who does not register for at least one semester (fall or spring, not applicable for summer) must apply for readmission to the Graduate School. The re-enrollment forms are available in the Graduate School. No fee is required.

COOPERATIVE PH.D. PROGRAM IN MARINE SCIENCE

The Graduate School at UNCW cooperates with North Carolina State University in a joint program leading to a Ph.D. in marine science. The degree is awarded by the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University and features opportunities for completing some course work and the dissertation research at UNCW. At UNCW, faculty in chemistry, geology, and the biological sciences participate in the program. Marine science students complete a major and minor field of study and are expected to be familiar with areas of marine science other than their own. Students applying for the program must have previously earned a master's degree in an appropriate natural science at UNCW or other accredited institution.

Specific requirements include: after admission to the program, 15 hours of graduate course work must be completed at NCSU before a student takes the preliminary (qualifying) examination. The examination, which includes written and oral components covering the major and minor areas, shall be conducted at NCSU. At least nine hours of course work shall be completed in residence at UNCW. Each student shall complete three core courses from related areas of marine science; the areas are biological oceanography, chemical oceanography, geological oceanography and physical oceanography. Specific requirements vary with each student's program, but doctoral programs normally require 27 to 36 hours of course work, excluding research and dissertation credits, beyond the master's degree. Residence requirements must be fulfilled by completing 18 credit hours of continuous registration at NCSU. A research-based dissertation in the major area of specialization must be completed and approved, including a successful oral defense of the work. Students are allowed a maximum of six calendar years after admission to attain candidacy and a maximum of 10 calendar years to complete all degree requirements.

Students interested in this program should contact the Graduate School at UNCW for application materials.

NONDISCRIMINATION POLICY

UNCW is dedicated to equality of opportunity within its community. Accordingly, UNCW does not practice nor condone discrimination in any form against students, employees, or applicants on the grounds of race, color, national origin, religion, sex, age, handicap or

veteran status. UNCW commits itself to positive action to secure equal opportunity regardless of those characteristics. For additional information, contact the compliance officer.

Any student who supplies false or misleading information or who conceals pertinent facts in order to enroll in the University of North Carolina at Wilmington will be subject to immediate dismissal from the university.

Application forms and other admissions information may be obtained by writing to the Graduate School, The University of North Carolina at Wilmington, Wilmington, North Carolina 28403-3297.

DEPARTMENT AND PREREQUISITE ABBREVIATIONS

The following standard list of abbreviations are used for stating department and prerequisite abbreviations.

Accountancy	ACG
Anthropology	ANT
Biology	BIO
Biology Lab	BIOL
Business Law	BLA
Chemistry	CHM
Chemistry Lab	CHML
Computer Science	CSC
Economics	ECN
Education	EDN
English	ENG
Finance	FIN
Geology	GLY
History	HST
Management	MGT
Marketing	MKT
Mathematicas	MAT
Statistics	STT
Production and Decision Sciences	PDS

THE COLLEGE OF ARTS AND SCIENCES

Graduate programs in the College of Arts and Sciences lead to either a Master of Arts or a Master of Science degree. In addition, specialized curricula are offered jointly by the College of Arts and Sciences and the School of Education for professional educators leading to the Master of Arts in Teaching degree. All programs in the college are designed to enhance the intellectual ability, maturity, and independence of the master's student, thereby preparing students for careers in business, industry, government, teaching, or for further study at the doctoral level.

MASTER OF SCIENCE IN BIOLOGY AND MARINE BIOLOGY

The Department of Biological Sciences offers programs of study leading to a Master of Science degree in biology and a Master of Science degree in marine biology. The programs are designed (1) to prepare students for further graduate work leading to the Ph.D.; (2) to provide professional biologists with advanced research and education opportunities; (3) to prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; (4) to provide a broadly based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department; or (5) to provide opportunities for secondary school teachers to pursue a graduate education including a teacher certification option.

Admission Requirements

Applicants seeking admission to the graduate program in biology or marine biology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced biology)
4. Three recommendations by individuals in professionally relevant fields

Scores on the verbal, quantitative, and advanced biology portions of the Graduate Record Examination (GRE) in the 50th percentile or above are desired. A bachelors degree in a field of biology from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, as well as an average of "B" or better in the undergraduate major. Undergraduate grades, GRE scores, and recommendations are used in concert to determine acceptability.

Degree Requirements

1. The program requires 30 semester hours of graduate study.

2. Six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better.

3. A minimum of 24 semester hours of graduate study must be completed in residence.

4. No more than six hours of graduate level courses offered by other science departments at UNCW may be applied toward the degree.

5. No more than 10 credit hours from those courses crosslisted as 400/500 may be applied toward the degree. Undergraduate courses taken in fulfilling deficiencies will not count toward the 30 hours required.

6. All deficiencies must be remedied prior to graduation.

7. The student must successfully complete a written qualifying examination based on prior coursework and an oral defense of the thesis. The qualifying examination normally will be taken during the student's final semester in residence.

8. Each student will present a thesis, based on original research, acceptable to the committee, prior to graduation.

9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study.

Requirements for Master of Science Degrees

Core courses: required of all students seeking a Master of Science degree in biology or marine biology.

BIO 501 Introduction to Scientific Research and Presentation (1)
BIO 593 Colloquium (1)
BIO 595 Seminar (1)
BIO 599 Thesis (3-6)

Master of Science in Biology

In addition to the core courses listed above, each student, in consultation with his/her thesis advisory committee, shall devise a program of study that meets the needs of the student and complements the thesis research.

Master of Science in Marine Biology

Student may elect to complete the course requirements of one of three tracks of study: (a) marine biology, (b) biological oceanography, or (c) coastal biology. Within each track, in addition to the coure courses listed above, students shall complete the following courses and, in consultation with their thesis advisory committees, select electives to complete a program of study that meets individual needs and interests.

(a). Marine biology track

A minimum of six hours from the following:

BIO 560 Estuarine Biology (3)
BIO 562 Coastal Ecosystems (3)
BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)

A minimum of 15 hours of elective credit; at least 12 hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

(b). Biological oceanography track

BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)
BIO 596 Seminar at Sea (1)

A minimum of 14 hours of elective credit; at least nine hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

(c). Coastal biology track
BIO 560 Estuarine Biology (3)
BIO 562 Coastal Ecosystems (3)
BIO 592 Seminar at the Coast (1)

A minimum of 14 hours of elective credit; at least nine hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

GRADUATE PROGRAM IN BIOLOGICAL SCIENCES

Course Descriptions

BIO 501. Introduction to Scientific Research and Presentation (1) Scientific manuscript preparation and communication techniques: manuscript format, graphics, design of experiments, library use, and writing techniques. One lecture and one laboratory hour each week.

BIO 512. (410) Electron Microscopy and Cell Ultrastructure (3) Prerequisite: Course in cell physiology or permission of instructor. A discussion of the general and specialized techniques of transmission and scanning electron microscopy and their application to the elucidation of the structure and function of cell organelles in plants and animals.

BIOL 512. (BIOL 410) Electron Microscopy Laboratory (1) Corequisite: BIO 512 and permission of instructor. Techniques for fixing, embedding and thin sectioning of tissue are demonstrated. Students prepare a material of choice for observation and analysis and examine the prepared material with the electron microscope. Three laboratory hours each week.

BIO 515. Membrane and Neurobiology (4) Prerequisite: Course in physiology or permission of instructor. Introduction to the principles of diffusion, osmosis, active transport, and membrane biophysics with emphasis on cellular and whole animal ionic and osmotic regulation, and neurophysiology. Emphasis will be placed on marine invertebrates and vertebrates. The laboratory will give experience in ion measurements, radioisotope handling, flux studies, and neurophysiological techniques. Three lecture and three laboratory hours each week.

BIO 519. Advanced Topics in Cellular and Molecular Biology (2-4) Prerequisite: Upper-level undergraduate or graduate course work in cellular and molecular biology or permission of the instructor. Selected topics in cellular and molecular biology. Includes: the cytoskeleton and its components, dynamics of membrane structure and function, metabolism of nitrogenous compounds, control of gene expression, and biology of extrachromosomal DNA. Lecture and laboratory hours each week.

BIO 520. (415) Vertebrate Histology (4) Prerequisite: Credit in biology. An introduction to the cytology and morphology of vertebrate cells and tissues, including examination of the four major histological tissues: epithelium, connective tissue, muscle, and nerve. Other topics include the techniques and instrumentation of light microscopy and selected methods of sectioning, fixation, and staining of tissues. Student project required. Three lecture and three laboratory hours each week.

BIO 524. (425) Microbiology (4) Prerequisite: Permission of instructor. Study of non-pathogenic and pathogenic microorganisms with emphasis on the biology of viruses and bacteria. Laboratory sessions include the techniques required to identify, culture, and stain selected microorganisms. Three lecture and three laboratory hours each week.

BIO 525. Marine Microbiology (4) Prerequisite: Course in microbiology or permission of instructor. Study of structure and function of microbes and their nutrition, metabolism adaptation and genetics, as related to the marine environment. The laboratory includes techniques of studying microbes and their ecology, and the systematics of important microorganisms. Three lecture and three laboratory hours each week.

BIO 526. Advanced Topics in Microbiology (2-4) Prerequisite: Course in microbiology and organic chemistry or permission of instructor. Study of the taxonomy, morphology, metabolism, genetics and ecology of microorganisms. Emphasis is placed on the current microbiological literature. Lecture and laboratory hours each week.

BIO 529. (430) (ANT 430) Evolutionary Biology (3) Prerequisite: Course in genetics. Advanced survey of organizational principles of the genetic apparatus of prokaryotes and eukaryotes. Emphasis is on critical evaluation of current concepts and models of evolutionary dynamics using relevant illustrative examples from the literature.

BIO 530. Invertebrate Evolution (3) Prerequisite: Course in invertebrate biology or permission of instructor. Critical analysis of current theories on the origin of the invertebrates and on origins of invertebrate phyla. The course includes a review of the historical development of evolutionary thought concerning invertebrate phylogeny, both from a neontological and palenontological viewpoint. Relevant data from modern studies in embryology, larval development, comparative morphology, functional morphology, and serology are stressed. Each student is required to prepare a summary paper on the status of knowledge for a selected invertebrate group.

BIO 531. Population Genetics (3) Prerequisite: Course in genetics. Basic principles of the dynamics of genes within populations. Topics include fitness, polymorphism, genetic equilibrium, and the effects of non-random mating and selection.

BIO 534. (466) Advanced Ecology (4) Prerequisite: Course in general ecology. Advanced topics in ecosystem energetics, population dynamics, and community ecology. Emphasis on team teaching and student research. Two lecture and four laboratory hours each week.

BIO 535. (435) Molecular Genetics (3) Prerequisite: A course in genetics, biochemistry, or cell physiology. An overview of current understanding of the nature, function, and control of genes. Topics include the nature of genetic information; the sequence organization and packaging of the eucaryotic genome; DNA, RNA, and protein systhesis; recombinant DNA technology; RNA processing; transposable genetic elements; and antibody diversity synthesis and function.

BIO 536. (436) Recombinant DNA Techniques (2) Prerequisite: Course in genetics, physiology, or biochemistry. Basic principles and techniques of gene cloning using all

three major types of cloning vectors: lambda phage, plasmids, and the single stranded DNA phage M13. Provides hands-on experience in recombinant DNA methodology. One lecture and four laboratory hours each week.

BIO 537. (457) Ichthyology (4) The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

BIO 538. Cytogenetic Methodology (2) Laboratory course introducing techniques for studying and analyzing the chromosomes of a variety of organisms including plants and animals. Four laboratory hours each week.

BIO 539. Advanced Topics in Population Biology (2-4) Prerequisite: Courses in genetics and ecology or permission of instructor. Study of the ecology, genetics, and evolution of populations. Topics include dynamics of population structure, growth, and regulation; natural selection and the maintenance of genetic variation within populations; differentiation of populations and speciation; evolution of population strategies. Lecture hours each week

BIO 540. (465) Biochemistry (3) Prerequisite: Course in organic chemistry. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms.

BIO 541. (420) Pathophysiology (3) Prerequisite: Permission of the instructor. Survey of the physiologic and biologic manifestations of disease, emphasizing how alterations in structure and/or function disrupt the human body as a whole. Overall mechanisms of disease are introduced and described to allow coverage of specific diseases within each system.

BIO 544. (440) Developmental Biology (4) Prerequisite: Course in genetics. Concepts of mechanism and control in development. Topics include cell lineage determination, differential gene activity, cell recognition phenomena, hormones, and environmental control of development. Plant and animal systems studied in modern research literature are discussed. Three lecture and three laboratory hours each week.

BIO 545. (445) Marine Physiology (4) Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion, and movement. Three lecture and three laboratory hours each week.

BIO 549. Advanced Topics in Animal Physiology (2-4) Prerequisite: Permission of instructor. Study of topics in animal physiology for which significant new understanding has been obtained. Consideration is given to those emergent techniques that have permitted the application of scientific methodology to particular physiological problems. Lecture and laboratory hours each week.

BIO 550. Vertebrate Systematics (4) Prerequisites: Courses in two of the following: ichthyology, herpetology, ornithology, mammalogy. A study of the processes of speciation

in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures are discussed. Three lecture and three laboratory hours each week.

BIO 551. Advanced Vertebrate Biology (2) Prerequisite: Permission of instructor. Individualized instruction in the identification, classification, and ecology of the terrestrial vertebrates of the coastal zone with emphasis on field methodologies. Designed to fill gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

BIO 552. (462) Deep Sea Biology (3) The biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea.

BIO 553. Natural History of Intertidal Organisms (3) Prerequisite: Course in invertebrate biology or permission of instructor. A study of the strategies adopted by major invertebrate groups inhabiting the intertidal zone. Field trips permit the students to observe and identify relationships between vertical ranges of intertidal organisms and local biological and physical parameters that define zonation. An individual or group project on some aspect of recruitment, site preference, succession, or competition in intertidal populations is required. Two lecture hours and field work each week.

BIO 554. (452) Mammalogy (4) A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions include collection, identification, and preparation of specimens and observations of mammals in the field. Three lectures and three laboratory hours each week.

BIO 556. (456) Ornithology (4) An introduction to the life of birds. Emphasis is on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

BIO 557. (454) Herpetology (4) A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Three lecture and three laboratory hours each week.

BIO 558. Biology of Recreational and Commercial Fishes (3) Prerequisite: Course in ichthyology or permission of the instructor. Topics broaden the student's knowledge of management of economically and socially important aquatic resources through discussions on ecology and fisheries oceanography, aquaculture, fish diseases, and contemporary research. The emphasis is on fishes, but the course includes information on shrimp, molluscs, whales, and other marine species. Two lecture and three laboratory periods each week.

BIO 559. (481) Marine Invertebrate Zoology (4) A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

BIO 560. Estuarine Biology (3) Prerequisite: Course in general ecology or permission of instructor. A study of the physical, chemical, and biological interactions within estuaries, emphasizing nutrient cycles and energy flows in estuarine ecosystems. Two lecture and three laboratory hours each week.

BIO 561. Barrier Island Ecology (3) Prerequisite: Course in general ecology or permission of instructor. Survey of the dune forest and tidal marsh flora and vegetation. Topics include descriptive, physiological, and applied aspects of barrier island plants. Special topics include dune environment, halophytes, salt spray effects, marsh energetics, and nutrient cycling. Quantitative techniques are used in characterization of island communities. Two lecture and three laboratory hours each week.

BIO 562. Coastal Ecosystems (3) Prerequisite: Course in general ecology or permission of instructor. Ecology of the major plant communities on the Coastal Plain. Systematics, structure, and functions of the coastal community are emphasized. Biotic and environmental sampling and comparison techniques are emphasized. Two lecture and four laboratory hours each week.

BIO 563. Physical Oceanography (4) Dynamics and physics of the ocean with emphasis on the physical properties of sea water, flow dynamics, and circulation. The laboratory emphasizes instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

BIO 564. Biological Oceanography (3) Encompasses a spectrum of special topics on factors that control the distribution patterns of marine organisms. The topics include: identification and evolution of marine biomes; seasonal, temporal, and spatial trends in temperate marine environment; tropical vs. polar marine productivity; temperature of water masses and biological implications with emphasis on gulf stream biology; pelagic and benthic community structure; marine food chain and trophodynamics; models of energy flow and budgets; biology of outer continental shelf; recruitment mechanism as influenced by natural and man-made causes. Special emphasis is placed on methods of data gathering and theories behind advanced biological oceanographic techniques. Each student specializes in a selected topic and presents a report at the end of the term.

BIO 565. (458) Fisheries Biology (4) Prerequisite: Courses in ichthyology, and statistics, and permission of instructor. Advanced studies in the biology of fishes. Topics include age, growth, foods, parasites, population dynamics, reproduction, and economic pressure. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

BIO 566. Behavioral Ecology of Reef Fishes (3) Prerequisite: Course in ichthyology or permission of instructor. An ecological and ethological approach to the study of reef fishes, including theories and problems dealing with ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

BIO 567. (460) Limnology (4) Prerequisite: Course in inorganic chemistry or permission of instructor. An examination of the physical, chemical, and biological characteristics

of freshwater systems, particularly lakes, with an emphasis on the interrelationship of these characteristics. Three lecture and three laboratory hours each week.

BIO 569. Advanced Oceanography (3) Prerequisite: A course in descriptive oceanography. Considers mechanisms and dynamics of the ocean; the physical processes propelling oceanic currents, the reception and transmission of energy, and its influence upon living systems, statics and dynamics of waves, chemical distribution in the sea and their influence upon living marine organisms, dynamics of fertility, and productivity in the marine environment. Two lecture and three laboratory hours each week.

BIO 570. (468) Planktonology (4) Prerequisite: Course in invertebrate zoology or consent of instructor. Classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

BIO 571. (446) Phycology (4) Prerequisite: BIO 205. A survey of algal groups including benthic planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

BIO 572. (472) Marine Phycology (4) An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

BIO 573. (477) Mycology (4) Prerequisite: BIO 205 and 207. Taxonomy, morphology, and ecology of fungi with emphasis on fungal evolution and the importance of fungi to humans. Fungi as agents causing both plant and animal diseases also are discussed. Three lecture and three laboratory hours each week.

BIO 574. (475) Plant Taxonomy (4) Prerequisite: Course in general botany. An introduction to identification, classification, and nomenclature of vascular plants with emphasis on the flora of southeastern North Carolina. Two lecture and four laboratory hours each week.

BIO 575. Taxonomy of Aquatic and Wetland Plants (3) Prerequisite: Course in plant taxonomy or permission of instructor. Discussion, collection, and identification of vascular plants found in the aquatic and wetland habitats of coastal North Carolina. Extensive field work and individualized instruction in collection and identification techniques. Two lecture and three laboratory hours each week.

BIO 576. (474) Comparative Morphology of Vascular Plants (4) Study of the major groups of vascular plants with emphasis on structure, life histories, development, and phylogeny. Three lecture and three laboratory hours each week.

BIO 577. Marine and Estuarine Mycology (3) Prerequisite: Course in mycology or permission of instructor. Survey of the mycoflora of oceanic and estuarine waters with emphasis on collecting and culturing techniques. Taxonomy and ecology of important fungal groups are discussed. Two lecture and three laboratory hours each week.

BIO 579. Advanced Topics in Organismic Biology (2-4) Prerequisite: Permission of instructor. Advanced study of the ecology, natural history, behavior, or systematics of selected groups of organisms. Lecture and laboratory hours each week.

BIO 580. (480) Field Studies in Biology (1-6) A research experience-oriented field course offered in selected regional locales. Emphasis is placed on distribution, taxonomy, and ecology of animal and/or plant organisms.

BIO 585. (485) Special Topics in Advanced Biology (1-6) Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

BIO 591. Directed Independent Study (1-3)

BIO 592. Seminar at the Coast (1) Participation in planning and conducting a series of field exercises in the coastal zone of North Carolina.

BIO 593. Colloquium (1) Investigation and discussion of selected topics and current issues through the interaction of students, faculty, and expert guest lecturers.

BIO 594. Practicum in College Biology Teaching (2) An introduction to theory, research, and practice in college biology teaching. Combines supervised internship in introductory biology with formal classroom instruction. For graduate students who have been awarded teaching assistantships in the Department of Biological Sciences and others with permission of instructor.

BIO 595. Seminar (1) Discussion of selected topics in biology.

BIO 596. Seminar at Sea (1) Participation in pre-cruise planning and a biological oceanography cruise to obtain practical knowledge on methods of sampling.

BIO 599. Thesis (1-6)

MASTER OF SCIENCE IN CHEMISTRY

The Department of Chemistry offers a program of study leading to the Master of Science degree in chemistry. The objectives of this program are to give students who have an undergraduate foundation in chemistry the opportunity to engage in advanced course work, in-depth study, and independent research, in order to acquire the skills of assimilating known information and generating new knowledge. These problem-solving skills will provide the foundation for future contributions by the graduates in various areas of chemistry, whether they seek employment directly or choose to undertake further graduate study elsewhere.

Admission Requirements

Applicants seeking admission to the graduate program in chemistry are required to submit the following to the Graduate School:

1. An official application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative and advanced chemistry)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination is expected. Scores on the Advanced Chemistry portion of the Graduate Record Examination will be used for diagnostic purposes. A bachelor's degree with a concentration in chemistry from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, along with a "B" average or better in chemistry courses. Admission decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. Programs leading to the Master of Science degree require a minimum of 30 semester hours of graduate study. Up to six credit hours of graduate courses in other natural and mathematical sciences may be approved by the student's advisory committee. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.

2. Deficiencies in a student's undergraduate preparation will be ascertained by a committee of faculty members in the Department of Chemistry. Placement tests in the basic areas of chemistry may be administered to incoming students at the discretion of the faculty committee to assist with evaluation of deficiencies. Any deficiencies must be remedied prior to graduation.

3. The student must successfully complete a written and an oral comprehensive exam.

4. The student must demonstrate computer proficiency.

5. A thesis reporting the results of the student's original research project must be submitted by the student and approved by the student's advisory committee. An oral defense of the thesis is required. Each student will present a seminar on his or her research project.

6. The program shall be completed within five years of the date of first registration for graduate study.

Required Courses

CHM 501 Introduction to Chemical Research (1)
CHM 595 Graduate Seminar (1)
CHM 599 Thesis (6)
And at least two of the following courses:
CHM 516 Advanced Chemical Synthesis (3)
CHM 536 Spectroscopy (3)
CHM 521 Thermodynamics (3) or CHM 522 Rates and Mechanisms (3)

GRADUATE PROGRAM IN CHEMISTRY

Course Descriptions

CHM 501. Introduction to Chemical Research (1) Scientific proposal and manuscript preparation. Communication techniques. Experimental design and data analysis. Computer applications. Library use. Laboratory safety. Two hours each week.

CHM 515. (415) Advanced Organic Chemistry (3) Prerequisite: Two semesters of organic chemistry. Theoretical and physical organic chemistry, including chemical bonding, stereochemistry, and conformational analysis with applications to selected reaction mechanisms.

CHM 516. Advanced Chemical Synthesis (3) Prerequisite: Inorganic chemistry and two semesters of organic chemistry, or permission of instructor. Modern organic and inorganic synthesis with emphasis on carbanion and free radical intermediates. Synthesis and use of organometallic compounds. Chemical oxidations and reductions. Formation of ring systems.

CHM 517. (417) Medicinal Chemistry (3) Prerequisite: Two semesters of organic chemistry. Systematic study of the chemistry and biological activity of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents.

CHM 521. Chemical Thermodynamics (3) Prerequisite: Physical chemistry, including chemical thermodynamics. Basic concepts and principles of chemical thermodynamics as derived from the Laws of Thermodynamics. Applications of thermodynamic principles to chemical and phase equilibria, solutions of electrolytes, and electrochemistry.

CHM 522. Rates and Mechanisms (3) Prerequisite: Physical chemistry. Chemical kinetics and reaction mechanisms. Transition state and collision theories. Catalysis.

CHM 535. (435) Advanced Analytical Chemistry (2) Prerequisites: Physical chemistry and quantitative analysis or analytical chemistry. Theory of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (CHML 535).

CHML 535. (CHML 435) Advanced Analytical Chemistry Laboratory (2) Prerequisite or corequisite: CHM 535. Applications of modern analytical instrumentation and techniques. Four laboratory hours each week.

CHM 536. Spectroscopy (3) Prerequisite: Organic chemistry. Fundamentals of interaction of electromagnetic radiation with matter. Principles and applications of vibrational, electronic, multinuclear magnetic resonance, electron spin resonance, Raman, x-ray and gamma ray spectroscopic methods.

CHM 546. (446) Advanced Inorganic Chemistry (3) Prerequisite: A physical chemistry based course in inorganic chemistry. Advanced topics in theoretical inorganic chemistry.

CHM 565. (465) Biochemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Study of the physical structures of carbohydrates, lipids, amino acids, proteins, nucleic acids, vitamins and minerals, and the chemical principles governing their biological activity. Special emphasis will be given to enzyme kinetics, solution properties of macromolecules, and the thermodynamic principles of intermediary metabolism.

CHML 565. (CHML 465) Biochemical Techniques and Instrumentation (1) Prerequisite or corequisite: Biochemistry. Theory and practice of biochemical techniques, including buffer and reagent preparation, protein assay, protein purification, electrophoresis, enzyme kinetics, tryptic peptide digestion, membrane vesicle construction, DNA isolation, and radioisotope detection. Three laboratory hours each week.

CHM 575. (475) Chemical Oceanography (3) Prerequisite: General chemistry. An oceanography course is recommended. Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. Estuarine reactions, air-seawater and sediment-seawater reactions, and human impact on the oceans.

CHM 576. (476) Chemical Analysis of Natural Waters (2) Prerequisite: Permission of instructor. Chemical analysis of natural waters, including river water, lake water, ground water, rain water, and seawater. Analytical methods will be evaluated with respect to appropriate applications. Analyses include salinity, chloride, dissolved oxygen and oxygen demand, pH and alkalinity, nutrients, chlorophyll, suspended material, and dissolved metals. One lecture and three laboratory hours each week.

CHM 585. (485) Industrial and Polymer Chemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Properties, synthesis, and reactions of major industrial chemicals; synthetic plastics, polyesters, polyamides, and rubbers; soaps and detergents; petrochemicals; paints and pigments; dyes; explosives; pulp and paper; pharmaceutical and nuclear industries; mechanism of polymerization, copolymerization; physical and chemical properties of polymers; polymer characterization; advances in polymer technology.

CHM 591. Directed Individual Study (1-3) Chemical research not related to thesis work.

CHM 592. Special Topics (1-3) Study of a topic or technique in chemistry not covered in regular courses. May be repeated for credit.

CHM 595. Graduate Seminar (1) Discussion by students, faculty, and guest lecturers of research ideas and/or research results. May be repeated one time for credit

CHM 599. Thesis (1-6) Laboratory research for thesis and thesis preparation.

MASTER OF ARTS IN ENGLISH

The Department of English offers a program of study leading to the Master of Arts degree in English. Students, in consultation with their advisors, tailor their course schedules to their own career objectives and interests, selecting a variety of courses in literature, language, rhetoric and composition, and creative or professional writing.

This program is designed for those who wish to become more professionally competent as writers, editors or writing consultants in business, industry, or government, those planning to teach English on all levels, those intending to pursue doctoral study in English, and those with a keen interest in contemporary approaches to literary texts, literary theory, and composition theory.

Admission Requirements

Applicants seeking admission to the graduate program in English are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (no more than five years old)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination, a satisfactory response to the essay question attached to the application form, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and a strong overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for admission.

The deadline for receiving applications is June 1 for the fall semester and November 1 for the spring semester. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, including ENG 501, Introduction to Research Methods in English, and ENG 502, Introduction to Literary and Writing Theory. At least 24 semester hours must be completed in residence at UNCW.

2. A maximum of six semester hours may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better.

3. A written comprehensive examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

4. The student will present and defend a thesis, acceptable to student's graduate advisory committee, prior to graduation. The thesis defense will be open to the public.

5. Students must complete the program within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN ENGLISH

Course Descriptions

ENG 501. Introduction to Research Methods in English (3) Analysis of the content of English studies, stressing bibliographic tools and the aims and methods of literary and writing research.

ENG 502. Introduction to Literary and Writing Theory (3) Analysis of the philosophical, historical, and social foundations of literary and writing theory. Emphasis on problems of meaning, interpretation, and evaluation. Examination of relevant critical figures and schools in historical context.

ENG 504. (430) The Age of Chaucer (3) Prerequisite: ENG 211 and junior or senior standing. A survey of works written in medieval England. Included are The Canterbury Tales, selections from Chaucer's other works, and representative works in such genres as chronicle, biography, epic, romance, dream vision, and drama.

ENG 505. (431) The Age of Elizabeth (3) Prerequisite: ENG 211 and junior or senior standing. English literature in the sixteenth and early seventeenth centuries. Works studied include poetry by Spenser and Shakespeare, plays by Marlowe and Jonson, and prose by More and Sidney.

ENG 506. (432) The Age of Milton (3) Prerequisite: ENG 211 and junior or senior standing. Emphasis on the works of Milton. Also includes works by Donne, Herbert, and Bacon.

ENG 507. (462) Studies in the Novella (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. Types of the novella or short novel, with emphasis upon its distinctive features and development as a genre.

ENG 508. (463) Studies in Non-Fiction (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. Types of non-fiction prose, including biography, autobiography, memoirs, journals, and various forms of essay. Works from a variety of periods, authors, and traditions.

ENG 509. (490) Special Topics in Literature (3) Prerequisite: junior or senior standing and three hours of literature at the 300-400 level. The study of a selected theme, movement, period, influence, or genre. Content varies from semester to semester. May be repeated once under a different subtitle.

ENG 510. Folklore (3) Study of the theory and history of folklore, customary modes of behavior, informal systems of communication, and the theory and practice of folklore collecting. Fieldwork project required.

ENG 520. Linguistics (3) Study of diverse aspects of human language, with particular attention to American English. Topics include analysis of principles of sound formation, syntax, and meaning; sociolinguistics and psycholinguistics; language acquisition and development in children.

ENG 522. History of the English Language (3) Study of the development of the English language from Old English to contemporary American dialects. Includes study of cultural, political, and linguistic factors affecting language change.

ENG 523. Modern English Grammar (3) Study of the structure of the English language, using modern methods of analysis.

ENG 524. Semantics and the English Language (3) Study of the effect of language upon thought and behavior. Particular attention is paid to practical applications of semantic theory.

ENG 525. Seminar in Linguistics (3) In-depth study of a topic in linguistics. May be repeated for credit under different subtitle.

ENG 530. Creative Writing (3) Writing instruction in four genres: essay, poetry, fiction, and drama. Comparison of techniques in the genres and analysis of work by students and professional authors.

ENG 542. Poetry Writing (3) Instruction in writing poetry, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 544. Fiction Writing (3) Instruction in writing fiction, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 550. Workshop in Advanced Writing (3) Prerequisite: Consent of instructor. Intensive work, on an advanced level, in a specific area of writing. Topics may include essay writing, technical writing, magazine writing, writing for publication in professional journals, or journalism. May be repeated for credit under different subtitle.

ENG 552. Theories of Composition (3) Analysis of theories related to the composing process, including the social and psychological nature of writing. Critique of research and a review of critical studies.

ENG 553. Studies in Composition (3) Study of a topic in composition. Topics vary; typical offerings could include history of rhetoric, the work of one or more theorists, or theories of reading and writing. May be repeated for credit under different subtitle.

ENG 560. Topics in British Literature (3) Study of major periods in British literature. Periods may include old and middle English literature, British literature of the Renaissance, Restoration and eighteenth-century British literature, nineteenth-century British literature, twentieth-century British prose, or twentieth-century British poetry. May be repeated for credit under different subtitles.

ENG 561. Topics in American Literature (3) Study of major periods in American literature. Period may include American literature to 1865, American literature from 1865 to 1914, American Literature from 1914 to 1945, or American literature since 1945. May be repeated for credit under different subtitle.

ENG 563. Topics in World Literature (3) Study of major traditions in World literature. Topics may include European literature or Third World literature. May be repeated for credit under different subtitles.

ENG 571. Literature for Adolescents (3) A reading course in the literature of selected writers who emphasize distinctive roles, experiences, feelings, and problems of adolescence. Special emphasis given to evaluating the literature studied in terms of its aesthetic appeal and its cultural significance.

ENG 572. Literary Criticism: The Major Statements (3) An historical and analytical survey of influential approaches to the study of literature, from Plato and Aristotle to Matthew Arnold, T.S. Eliot, and Stanley Fish, with attention to practical application.

ENG 580. Special Studies in Literature (3) Intensive examination of a special area of literary study. May be repeated for credit under different subtitles.

ENG 591. Directed Independent Study (3)

ENG 599. Thesis (1-6)

MASTER OF SCIENCE IN GEOLOGY

The Department of Earth Sciences offers a program of study leading to the Master of Science degree in geology. The specific goals of the program are to provide advanced research and educational opportunities in the geological sciences, and to prepare geologists for solving contemporary problems in sedimentary geology. Specific objectives of the program are: (1) to develop research competence in sedimentary geology; (2) to develop professional competence in the assessment of potential water, energy and mineral resources; (3) to develop a level of research competence in geology that encourages continued effort toward the doctoral degree; and (4) to provide the scientific community with meaningful research data on marine, coastal, and coastal plains geology.

Admission Requirements

Applicants seeking admission to the graduate program in geology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced geology)
4. Three recommendations by individuals in professionally relevant fields

Students seeking admission to the graduate program in geology must hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program, have a strong overall academic record with a "B" average on the basic courses prerequisite to geology, and satisfactory scores on the Graduate Record Examination. We accept students to our program who hold bachelor's degrees in any of the biological, physical, or mathematical sciences. All students must have completed course work in mineralogy, petrology, invertebrate paleontology, stratigraphy, structural geology, an approved summer field course in geology, and two semesters each of chemistry, physics, and calculus. Upon entrance into the master's program, the department's graduate coordinator ascertains deficiencies and recommends remedies. All deficiencies must be removed before a student is accepted as a candidate for the degree.

Degree Requirements

1. The program requires at least 30 semester hours of graduate credit, with a maximum of six credit hours for the thesis and three credit hours for seminars. A maximum of six semester hours of graduate credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate courses must be completed at UNCW including both course work and thesis. At least 18 semester hours must be completed in geology.

2. Each student must successfully complete a comprehensive qualifying oral examination that is administered no earlier than the semester the student is enrolled in final course work.

3. Each student must complete an approved course of study within five years of the date of first registration for graduate study.

4. Each student must present and defend a thesis, based on original research, acceptable to the committee, prior to graduation. The thesis defense is open to the public.

GRADUATE PROGRAM IN GEOLOGY

Course Descriptions

GLY 510. Ancient Sedimentary Environments (3) Prerequisite: Petrology, stratigraphy, field camp. Survey of ancient sedimentary environments with an evaluation of the criteria used in their recognition in the rock record. Specific ancient sedimentary sequences are examined and compared to their modern counterparts. Field trips.

GLY 511. Clastic Petrology (3) Prerequisite: Optical mineralogy. Classification and description of sandstones and mudrocks and evaluation of their diagenesis. Application of principles to economic deposits. Laboratory exercises concentrate on microscopic and X-ray techniques of analysis. Two lecture and three laboratory hours per week. Field trips.

GLY 512. Carbonate Petrology (3) Prerequisite: Optical mineralogy. Ancient carbonate rocks and modern carbonate depositional environments. Evaluation of the diagenetic processes of cementation, dolomitization and silicification, and the relationship of carbonate rocks to economic deposits. Two lecture and three laboratory hours per week. Field trips.

GLY 515. Methods of Sedimentology (3) Prerequisite: Petrology. A survey of the parameters of sedimentation. Emphasis on the processes involved in the formation of sedimentary rocks, including their origin, transport, deposition and lithification [of rock-forming minerals]. Techniques of physical and chemical analyses of sediments are stressed. One lecture and six laboratory hours per week. Field trips.

GLY 531. Micropaleontology (4) Prerequisite: Invertebrate paleontology or consent of instructor. Paleobiology and geological history of microorganisms, emphasizing the classification and systematics of major microfossil groups. Three lecture and three laboratory hours per week. Field trips.

GLY 532. Biogeography (3) Prerequisite: Consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic, and evolutionary events in the past.

GLY 533. Paleoecology (3) Prerequisite: Invertebrate paleontology or consent of instructor. Principles of ecological faunal analysis as primarily applied to the marine fossil record. Emphasizes the integration of form and function, taphonomy, and community development through time, and sedimentology/stratigraphy as a synthetic approach to paleoenvironmental, paleobiological and evolutionary analyses. Applications to biostratigraphy are considered. Field trips.

GLY 535. Stratigraphic Paleontology (3) Prerequisite: Invertebrate paleontology, stratigraphy. Analysis of the stratigraphic distribution of invertebrates emphasizing the Cretaceous and Cenozoic fossil records; application of biostratigraphic principles and techniques in the development of high-resolution relative time scales; practical expe-

rience in the stratigraphic aspects of paleontology through field, laboratory and literature research. Two lecture and three laboratory hours per week. Field trips.

GLY 540. Regional Geology of North America (3) Prerequisite: Structural geology, stratigraphy. Survey of the rocks, structures, natural resources, and tectonic histories of different regions of North America, such as the Precambrian shield, Appalachians, and Cordillera. Syntheses of theories of orogenesis.

GLY 542. Structural Evolution of Continental Margins (3) Prerequisite: Structural geology, stratigraphy. Structural characteristics and tectonic frameworks of passive and active continental margins. Comparison of modern settings and ancient analogs in the rock record.

GLY 550. Marine Geology (4) Prerequisite: Consent of instructor. Topography, sediments, structure and geologic history of the marine and estuarine environment. Three lecture and three laboratory hours per week. Field trips.

GLY 552. Coastal Sedimentary Environments (4) Prerequisite: Consent of instructor. Sedimentary processes and environments of the world's coastal systems. Emphasis on river deltas, estuaries, bays, salt marshes, barrier islands and associated inlets. Ice-bound as well as rocky coastlines also are examined. Three lecture and three laboratory hours per week.

GLY 555. Ocean Basin Sediments (3) Prerequisite: Consent of instructor. Classification and recognition of ocean-basin sediments and their spatial distribution within the sedimentary record. Additional emphasis on the effects of ocean-bottom and near bottom currents in the erosion, transport and deposition of the terrigenous and biogenic components. Techniques of physical and chemical analysis are stressed. Two lecture and three laboratory hours per week.

GLY 560. Advanced Stratigraphy (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Stratigraphic analysis of the geologic history of North America and parts of other continents. Emphasis on interpreting lithologic assemblages and stratigraphic relations in terms of modern tectonic-depositional models. Two lecture and three laboratory hours per week.

GLY 561. Coastal Plains Geology (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Origin and development of Gulf and Atlantic Coastal Plains with emphasis on stratigraphy, structure, geomorphology and tectonic history. Field trips.

GLY 563. Seismic Stratigraphy (3) Prerequisite: GLY 510 or consent of instructor. Seismic interpretation as a means of examining the stratigraphic framework of basins and continental margins. Relationships between seismic data and depositional systems. Introduction to obtaining and processing reflection data and sound propagation. One lecture and six laboratory hours per week.

GLY 571. Sedimentary Geochemistry (3) Prerequisite: One year each of chemistry, physics, and calculus. Application of geochemistry to the formation and diagenesis of

sediments and sedimentary rocks. Examination of mineral precipitation, sediment cementation, metasomatism and chemical erosion.

GLY 580. Economic Mineral Deposits (3) Prerequisite: Mineralogy, petrology and one year of chemistry. Description of metallic and nonmetallic mineral deposits that characterize island arcs, spreading centers, and intracontinental areas. Magmatic, hydrothermal, and sedimentary processes of ore formation. Three lecture hours per week. Field trips.

GLY 590. Topics in Sedimentary Geology (1-3) Prerequisite: Consent of instructor. Advanced special topics in sedimentary geology through lectures, seminars, laboratory or field experience.

GLY 591. Directed Independent Study (1-3)

GLY 595. Seminar (1) Prerequisite: Consent of instructor. Discussion of selected areas in sedimentary geology. Two hours per week.

GLY 599. Thesis (1-6)

MASTER OF ARTS IN HISTORY

The Department of History offers a program of study leading to the Master of Arts degree in history. Specific goals of the program are: (1) to provide advanced research and educational opportunities in the study of history; (2) to prepare historians by training them in the latest research techniques, providing them with a knowledge of the most current research on historical problems; and (3) to direct students in historical research using historical documents and archives.

Admission Requirements

Applicants are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields.

The minimum requirements for admission to the graduate program in history include: Satisfactory scores on the Graduate Record Examination (verbal and quantitative) and advanced placement examination, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the basic courses prerequisite to the area of proposed graduate study.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, 27 of which must be in history. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. At least 24 hours of graduate study must be completed in residence.

2. A minimum of 24 semester hours of course work, including the thesis, must be in courses open only to graduate students. Courses open to seniors and graduate students will have additional requirements and different grading for graduate students.

3. Students must complete HST 500, 12 hours in the area concentration and nine hours of electives. Six hours beyond HST 500 must be in seminars.

4. The student must successfully complete a written comprehensive examination that will be administered no earlier than during the final semester of enrollment in course work.

5. Each student will present a thesis, acceptable to the thesis committee, prior to graduation.

6. The student must pass a competency examination demonstrating satisfactory reading knowledge of a foreign language.

7. The program shall be completed within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN HISTORY

Course Descriptions

HST 500. Historiography and Methodology (3) Introduction to problems of historical research through examination of major historical works and current techniques of research, evaluation of sources, development of bibliography, and quantitative historical

methods including the role of the computer in historical research. This course is open only to graduate students.

HST 507. (ANT 411) Advanced Field Training in Archaeology (3) Prerequisite: HST 201 or 441; graduate status, and consent of the instructor. Supervisory training for field archaeologists. Students direct specific aspects of archaeological excavation, including research design, data recovery, daily site management, and field analysis. Summers.

HST 508. (ANT 412) Historical Archaeology (3) Prerequisite: HST 201 or 441 or consent of the instructor and graduate status. Substantive investigation of the special excavation and analysis procedures, subject matter, and goals of archaeology as applied to the historic past of North America. Special emphasis placed upon historic archaeological sites in the local region. Lecture, laboratory, and field work.

HST 510. (441) Colonial History of the U.S. (3) Formation and growth of the American colonies to the conclusion of the French and Indian War (1763).

HST 511. (443) The American Revolution and the Formation of the United States, 1763-1800 (3) Organization of the British Empire, events preceding the Revolution, the war for independence, Confederation era, drafting and ratification of the federal Constitution, politics of the new nation.

HST 512. (445) The Early United States Republic (3) Era from inauguration of Thomas Jefferson, through Jacksonian democracy, to the advent of the American Civil War.

HST 513. (447) The Civil War and Reconstruction (3) The American Civil War and Reconstruction of the South through 1877.

HST 514. (449) Robber Barons and Reformers, the U.S., 1877-1917 (3) The rise of American industry and the Populist-Progressive response to urbanization and industrialization.

HST 515. (451) Twentieth Century America (3) A study of the United States from 1917 to 1950 with emphasis upon World War I, the Roaring Twenties, Depression and New Deal, World War II, and the origins of the Cold War.

HST 516. (452) America Since 1950 (3) Developments in American politics, cultural life, civil rights, and foreign policy from the time of the Truman Administration to the present, including the Cold War, Korea, the Vietnam War, Watergate, the energy crisis, the nuclear arms race, feminism, and the "Me Decade."

HST 517. (480) Topics in Afro-American History (3) An intensive historical study of selected themes and events in the history of Afro-Americans from the origins of the Atlantic slave trade to the present. Examples of specific topics are: Slavery in the Americas, Blacks and the American Military Tradition, Black Folklore, and the Harlem Renaissance and biographies of Great Afro-American Leaders.

HST 520. U.S. Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme offered in American history. This course is open only to graduate students. May be repeated one time for credit.

HST 522. U.S. Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of American history. This course is open only to graduate students. May be repeated one time for credit.

HST 524. Conflict and Consensus in American History (3) An application of the historiographic concepts of conflict and consensus in American society to the examination of specific periods or topics in American history. This course is open only to graduate students.

HST 530. (403) Medieval Civilization (3) A study of medieval institutions and culture with special emphasis on feudalism, manorialism, and the religious system of the period.

HST 532. (407) Europe in the Age of Renaissance (3) Political, economic and social changes during the Renaissance, with special attention to the artistic and intellectual achievements of the age.

HST 533. (409) Europe in the Age of the Reformation (3) Causes and development of the Protestant Revolution and the Catholic Reformation with examination of the impact of these movements on the political, economic and social institutions of early modern Europe.

HST 534. (411) Europe: From Monarchy to Revolution (3) Modern Europe from the rise of absolute kings in the seventeenth century to the defeat of the Emperor Napoleon.

HST 535. (413) Europe: The Age of Industry and Empire (3) The origins and developments of the industrial revolution in Europe; its effect on politics, population, urbanization and social class consciousness; the establishment of modern colonial empires in the nineteenth century and their place in the world economic order.

HST 536. (415) Europe and the Struggle for World Mastery (3) The rivalry of Europe's great powers leading to World Wars I and II: the causes, events, and results of those global conflicts.

HST 537. (417) Europe Since 1945 (3) The revival of Europe after the Nazi period and its division by the Cold War; political, social and economic developments on both sides of the "Iron Curtain;" decolonization of Europe's empires; movements for political and economic integration; continuing revolutionary currents; Europe's place in contemporary world politics.

HST 540. European Colloquium (3) Readings and discussion of major research trends and schools of interpretation in selected themes in European history. This course is open only to graduate students. May be repeated one time for credit.

HST 542. European Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of European

history. This course is open only to graduate students. May be repeated one time for credit.

HST 544. Studies In European Biography (3) Examination of selected figures in European history and the extent to which they shaped and were shaped by their times. This course is open only to graduate students.

HST 560. Non-Western Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme or period in non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 562. Non-Western Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 564. Modernization and Revolution In the Non-Western World (3) Examination of industrialization, imperialism, nationalism, and other forces that have revolutionized traditional society in the non-Western world. This course is open only to graduate students.

HST 570. (470) Introduction to Applied History (3) A research seminar that acquaints students with the various sectors of applied history (government and public policy, archives and information management, cultural resources management, media and research organizations) and with the research methodologies unique to the field. Field trips, guest speakers, and a sponsored research project provide practical experiences for participants.

HST 572. Cultural Resources Management (3) Exploration of the theories and techniques of identifying, classifying, preserving, restoring, interpreting and managing the resources that make up this country's cultural heritage. In addition to readings, discussions, guest lectures, and field trips, students will work with public, private, and non-profit agencies directly engaged in the business of preservation, restoration, and interpretation. Special emphasis will be placed on the study of three-dimensional artifacts and the meaning of material culture to the scholar. This course is open only to graduate students.

HST 574. Museum Studies (3) An introduction to the theories and practical application of managing a museum specializing in local, state, or regional history. Through readings, lectures, field trips, and a group project, students will familiarize themselves with the following: administration, collection development, preservation, research and interpretation, exhibition, educational programs and community outreach, coordinating volunteers, and fund raising. This course is open only to graduate students.

HST 575. Historical Administration (3) Introduction to the use of historical skills in managerial or administrative settings. In addition to a survey of the literature on professionalization and the role and function of the professional in a bureaucracy, students will gain some experience in the areas of budgeting, grantsmanship, personnel administration, short-term and long-range planning, goal-setting, and strategy development.

Special emphasis will be placed on issues relative to the planning, development, and management of historic sites and properties. This course is open only to graduate students.

HST 576. (482) Community Studies (3) Provides an introduction to the methodological and practical application of community studies. Topics include: oral history, folklore, ethnography, museum and archival collection and management, and historic preservation. Students will select a research project in cooperation with one of the local museums, historical societies, public libraries, or other government agencies.

HST 584. (484) American History Through Film (3) Analysis of interpretations of American history as presented in documentary and dramatic films. Two related themes are stressed: the way Hollywood films and television programs depict contemporary views of events in American history and the way films reveal changing attitudes and values in American popular culture.

HST 590. Comparative Historical Studies (3) Comparison of developments in different eras or places in order to determine unique or common historical themes. This course is open only to graduate students.

HST 591. Directed Independent Study (limited to one per student) (1-3). This course is open only to graduate students.

HST 593. Problems in History (3) Investigation of selected problems in European, American, and non-Western History through discussions, development of bibliographies, or a research paper. This course is open only to graduate students. May be repeated one time for credit.

HST 596. Seminar: Topics in History (3) Advanced research on specialized topics using, where possible, primary sources. This course is open only to graduate students. May be repeated one time for credit.

HST 597. (497) Topics in Asian History (3) Intensive study of selected themes and events in Asian history not regularly covered in other courses. Examples of specific topics include: "The Chinese Revolution," "Meiji Japan," "Gandhian Thought," and "The Nationalist Movements."

HST 599. Thesis (1-6). This course is open only to graduate students.

MASTER'S DEGREE PROGRAM IN MATHEMATICS

The Department of Mathematical Sciences offers programs of study leading to the Master of Arts or Master of Science degree in mathematics. The Master of Science track has options designed to prepare students for careers in business, industry, or government as well as for further study in mathematics. Applications from the sciences, industry, and management are stressed in course work from the areas of classical applied mathematics, operations research, statistics, and computer science. The more traditional Master of Arts track includes an option designed for secondary and community college teachers. There is also an option for those who intend to pursue the Ph.D. degree and a more flexible option that may be used to build a strong, broad background in basic areas of both the pure and applied sides of mathematics. The Master of Science track has more admissions prerequisites and required course work.

Admission Requirements

Applications for admission may be made at any time. Applicants are required to submit, normally by March 15 for fall admission, the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (GRE) Aptitude Test. Applicants are encouraged to take the GRE Advanced Test in mathematics as well. Scores more than five years old will not be accepted. In cases where the opportunity to take the GRE may be limited (such as in certain foreign countries) the applicant may request a waiver or modification of this requirement. Such requests will be considered by the department on their individual merit.
4. Three recommendations from individuals in professionally relevant fields

Each applicant also must:

5. Have a strong overall academic record and have passed, with a "B" or better average, the following undergraduate mathematics courses or their equivalent: a standard introductory calculus sequence including multivariate calculus, a course in linear algebra, and at least 15 additional semester hours of mathematics or statistics courses beyond the level of calculus.

In addition, an applicant choosing the Master of Science track must:

6. Have had an undergraduate course in calculus-based statistics and have programming experience using a modern structured language; and
7. For the option Applied Mathematics I, be fluent in FORTRAN and have taken the following undergraduate mathematics courses or their equivalent: advanced calculus, elementary numerical methods, and introductory differential equations.

Admissions decisions are based upon examination of several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission. Such individuals may be required to take additional course work to remove deficiencies or required to demonstrate proficiency in certain areas. The student's advisory committee will determine any deficiencies and recommend appropriate remedies.

To ensure that the mathematical prerequisites have been met, any student not enrolled in the mathematics degree program or the MAT mathematics track must obtain permission from the Mathematical Sciences Department to register for any graduate course offered by the department.

Degree Requirements

1. The Master of Arts degree requires 24 semester hours of course work and six hours of seminar and thesis for a total of 30 semester hours. The Master of Science degree requires 30 semester hours of course work and six hours of thesis for a total of 36 semester hours. In each case, at least 15 hours of credit (including research seminar and thesis credit) must be earned from courses open only to graduate students.

2. The student must successfully complete a written or oral comprehensive exam that will be administered no earlier than during the final semester of enrollment in course work.

3. Each student will present a thesis, acceptable to the advisory committee, prior to graduation. The student will report orally on the thesis to an audience of students and faculty during the final semester before graduation.

Course Requirements for the Master of Arts in Mathematics

Each student must complete 30 semester hours of graduate study in mathematics including:

MAT 595	Research Seminar (2), and
MAT 599	Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Mathematics - Secondary and Community College Teaching

A. Required core sequences:

MAT 511-512	Real Analysis I, II (3,3)
MAT 541-542	Modern Algebra I, II (3,3)

B. The remaining 12 hours of course work should be selected from MAT 500 (strongly recommended) MAT 502, 515, 521, 522, 531, 551, 552, 555, 581, 582; STT 505, 511, 512.

II. Mathematics - Preparation for Further Graduate Study

A. Required core sequences:

MAT 511-512	Real Analysis I, II (3,3)
MAT 541-542	Modern Algebra I, II (3,3)

B. Recommended courses:

MAT 513	Measure and Integration (3)
MAT 531	Linear Algebra (3)

C. The remaining course work must include a coherent pair of courses in mathematics or statistics, at least one of which is open to graduate students only. Acceptable pairs of courses in algebra, analysis, applied mathematics, complex analysis, linear algebra, logic, number theory, numerical analysis, probability, statistics, and topology are listed in the advising guidelines.

III. Mathematics - General

A. Required core sequences:

Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 541-542	Modern Algebra I, II
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 535-536	Linear Programming and Discrete Optimization (3,3)

B. The remaining 12 hours of course work should include a coherent pair of courses in mathematics or statistics. No more than two courses having a CSC designator and no more than two courses having a STT designator may be used to fulfill the 30-hour requirement.

Course Requirements for the Master of Science in Mathematics

Each student must complete 36 hours of graduate study in mathematical sciences including:

MAT 599	Thesis (6)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Applied Mathematics I

A. Required core sequences:

	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory (3,3)

B. Other required courses:

MAT (STT) 565	Applied Probability (3)
MAT 515	Introduction to Complex Variables (3)
MAT (CSC) 525	Numerical Analysis (3)
MAT 506	Scientific Computing (3)

C. At least two courses selected from STT 505, MAT (CSC) 509; MAT 526, 531, 533, 535, 536, 537, 563, 564, 568, 569, 570; CSC 575

II. Applied Mathematics II

A. Required core sequences:

	MAT 535-536	Linear Programming and Discrete Optimization (3,3)
Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)

B. Other required courses:

	MAT (STT) 565	Applied Probability (3)
	MAT (STT) 569	Stochastic Processes in Operations Research (3)
Either	MAT 537	Nonlinear Programming (3)
or	MAT 570	Simulation (3)
One of	STT 505, MAT(CSC) 509, MAT(CSC) 525 (3)	

C. The remaining course work should be selected from MAT(CSC) 504, 509, 525; MAT 506, 511, 512, 526, 531, 533, 537, 541, 570; MAT(STT) 568; STT 505; CSC 532, 575

III. Mathematical Sciences

A. Required core sequences:

Either	MAT 518-519	Applied Analytical Methods I, II
or	MAT 511-512	Real Analysis I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 541-542	Modern Algebra I, II (3,3)

B. At least two courses selected from STT 505; MAT(STT) 565; MAT(CSC) 509, 525

C. The remaining courses may be selected from any of those required or recommended for either Option I or II of the M.S. track.

GRADUATE PROGRAM IN MATHEMATICS

Course Descriptions

MATHEMATICS

MAT 500. Introduction to Mathematical Computing (3) Prerequisite: Permission of department. Study of a structured programming language and applications on a microcomputer. Problem solving algorithms, numerical methods and graphics.

MAT 502. Survey of Applications of Mathematics (3) Prerequisite: STT 362 and either MAT 500 or computing experience. An introduction to the techniques of discrete, continuous and stochastic mathematical modeling. Model construction, data collection, and mathematical/computer analysis are emphasized. Scientific and business applications.

MAT 504. (CSC 504) Advanced Discrete Structures (3) Prerequisite: MAT 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

MAT 506. Scientific Computing (3) Prerequisite: Fluency in FORTRAN and permission of department. Introduction to scientific computations on special-purpose machines.

Machine architecture, survey of current machines, array processors, parallel processing, vectorization, software, applications.

MAT 509. (CSC 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

MAT 511-512. (411-412) Real Analysis (3-3) Prerequisite: Permission of department. Advanced study of convergence, continuity, differentiation and integration in Euclidean space. The real number system, basic topology of Euclidean spaces; sequences and series; continuity, differentiation of vector-valued functions, uniform continuity; theory of integration; implicit and inverse function theorems, Stokes' Theorem.

MAT 513. Measure and Integration (3) Prerequisite: MAT 512. Abstract measure theory. Lebesgue measure, integration, convergence theorems, absolute continuity, differentiation, Radon-Nikodym Theorem, product measures, Fubini's Theorem, Lebesgue spaces, convolution.

MAT 514. Functional Analysis and Applications (3) Prerequisite: MAT 512. Introduction to functional analysis and applications to areas such as linear and non-linear differential equations, integral equations and control theory. Topics selected from Banach spaces, operators, the Hahn-Banach Theorem, open mapping and closed graph theorems, Sovolev spaces, operators in Hilbert spaces and operational calculus.

MAT 515. (415) Introduction to Complex Variables (3) Prerequisite: Advanced calculus or MAT 511. A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties; analytic functions; power series; integration, Cauchy's Theorem, Laurent series and residue calculus; elementary conformal mappings and boundary value problems.

MAT 516. Complex Analysis (3) Prerequisite: MAT 511 and 515. Advanced study of complex-valued functions. Holomorphic and harmonic functions, Cauchy's Integral Theorem, Poisson's kernel and the Dirichlet problem, conformality, the Riemann Mapping Theorem, analytic continuation. Additional topics chosen from univalent, entire, meromorphic functions; Riemann surfaces; asymptotic methods; Mittag-Leffler, Runge and Weierstrass factorization theorems.

MAT 518-519. Applied Analytical Methods (3-3) Prerequisite: Undergraduate differential equations and advanced calculus. A thorough treatment of the solution of initial and boundary value problems of partial differential equations. Topics include classification of partial differential equations, the method of characteristics, separation of variables, Fourier analysis, integral equations and integral transforms, generalized functions, Green's functions, Sturm-Liouville theory, approximations, numerical methods.

MAT 521. (421) Number Theory I (3) Prerequisite: Permission of department. Use of algebraic techniques to study arithmetic properties of the integers and their generalizations. Primes, divisibility and unique factorization in integral domains; congruences,

residues and quadratic reciprocity; diophantine equations and additional topics in algebraic number theory.

MAT 522. Number Theory II (3) Prerequisite: MAT 521. A continuation of the study of number theory using analytic methods. Number theoretic functions; distribution of primes and the prime number theorem; the Riemann zeta function; diophantine approximation and the geometry of numbers; additional topics in analytic number theory.

MAT 525. (425) (CSC 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximations; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations. Error analysis. Certain algorithms are selected for programming.

MAT 526. Advanced Numerical Analysis (3) Prerequisite: MAT 525. Continuation of MAT 525. Rational and trigonometric interpolation, numerical integration, iterative techniques, eigenvalue problems. Numerical solution of initial and boundary value problems for ordinary differential equations, large linear systems, and partial differential equations.

MAT 531. Linear Algebra (3) Prerequisite: Permission of department. Theory of vector spaces, linear mappings and matrices. Determinants, eigenvalues, canonical forms, the Cayley-Hamilton Theorem, inner product spaces and positive definite matrices.

MAT 533. Applied Matrix Theory (3) Prerequisite: Undergraduate linear algebra and computing experience. Matrix theory and numerical techniques in linear algebra. Topics include elimination, iteration and factorization methods for systems of linear equations; minimal polynomials, eigenvalue approximations, norms and error estimates, spectral theorem, symmetric and unitary bilinear forms.

MAT 535. (435) Linear Programming (3) Prerequisite: Undergraduate linear algebra and computing experience. Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality; parametric linear programs; sensitivity analysis; modeling and computer implementation.

MAT 536. (436) Discrete Optimization (3) Prerequisite: MAT 535. Theory and applications of discrete optimization algorithms. Transportation problems and network flow problems; integer programming; computer implementation.

MAT 537. Nonlinear Programming (3) Prerequisite: Advanced calculus. Theory and applications for constrained and unconstrained nonlinear optimization. Theory of convex sets, convex and concave functions, Kuhn-Tucker conditions, duality, algorithm convergence; computational methods including penalty and barrier functions, gradient projection, and quadratic programming.

MAT 541. Modern Algebra I (3) Prerequisite: Permission of department. Introduction to group theory. Binary structures including semigroups and lattices; finite groups, struc-

ture theorems, Sylow theorems and applications; group actions; free groups and presentations; structure of abelian groups.

MAT 542. Modern Algebra II (3) Prerequisite: MAT 541. Introduction to rings and fields. Modules, integral domains, vector spaces. Structure of polynomial rings and their relation to linear algebra. Field extensions and Galois theory.

MAT 545. Group Theory (3) Prerequisite: MAT 541. Theory of groups. Isomorphism theorems; permutation groups and representation theorems; finite direct products and the fundamental theorem of abelian groups; the Sylow theorems and generalizations; normal series and solvable groups; extensions and semidirect products; theory of simple groups.

MAT 551. (451) Topology I (3) Prerequisite: Permission of department. A study of the basic concepts of general topology. Metric spaces, continuity, completeness, compactness, connectedness, separation axioms, product and quotient spaces; additional topics in point-set topology.

MAT 552. Topology II (3) Prerequisite: MAT 551 and knowledge of elementary group theory. An introduction to the concepts of algebraic topology. Classification of surfaces, manifolds, the fundamental group, covering spaces; additional topics in algebraic topology.

MAT 555. Modern Geometry (3) Corequisite: MAT 541. A survey of modern geometry from several perspectives. Euclidean and non-euclidean axiomatic geometries; finite geometries; projective geometry; transformations and invariants. Additional topics may include introductions to algebraic geometry, combinatorial geometry or differential geometry.

MAT 557. (457) Differential Geometry (3) Prerequisite: Advanced calculus. Theory of curves and surfaces in Euclidean space. Frenet formulas, curvature and torsion, arc length; first and second fundamental forms. Gaussian curvature, equations of Gauss and Codazzi, differential forms, Cartan's equations; global theorems.

MAT 558. Differentiable Manifolds (3) Prerequisite: MAT 557. A study of differentiable manifolds. Functions of several variables and mappings, implicit and inverse function theorems. Vector fields, tensors and forms, exterior derivatives, Lie derivatives, covariant derivatives and connections; Riemannian metrics, torsion and curvature tensors, Cartan's equations; Lie groups; submanifolds.

MAT 563. (463) Ordinary Differential Equations (3) Prerequisite: Undergraduate linear algebra and differential equations. Advanced study of ordinary differential equations. Existence and uniqueness; systems of linear equations, fundamental matrices, matrix exponential; series solutions, regular singular points; plane autonomous systems, stability and perturbation theory; Sturm-Liouville theory and expansion in eigenfunctions.

MAT 564. Applied Analytical Models (3) Prerequisite: MAT 519. Topics in applied analysis of current interest. Topics may include tensor analysis and relativity, quantum

mechanics, control theory, fluid mechanics, waves, ocean circulation, and mathematical models in biology or economics.

MAT 565. (465) (STT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

MAT 568. (STT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

MAT 569. (STT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

MAT 570. Simulation (3) Prerequisite: MAT/STT 565. Study of computer simulation of discrete and continuous random processes. Generation of pseudo-random variables, discrete event simulation, simulation design, simulation languages, statistical analysis of simulation output. Applications to modeling stochastic systems in computer science, engineering, and operations research.

MAT 581. (481) Introduction to Mathematical Logic (3) Prerequisite: Permission of department. The formal study of truth and provability. Propositional calculus; predicate calculus. Gödel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or nonstandard analysis.

MAT 582. Set Theory (3) Prerequisite: MAT 581. An account of contemporary set theory. The Zermelo-Fraenkel axioms, ordinals and cardinals, models of set theory. The concepts of large cardinals, constructibility and the independence results.

MAT 592. Advanced Topics in Mathematics (3) Prerequisite: Consent of instructor. Advanced topics of current interest in pure and applied mathematics not covered in existing courses.

MAT 595. Research Seminar (2) Prerequisite: Consent of instructor. Designed to give the student experience in locating and learning mathematics outside the classroom setting. Use of the major mathematics journals, professional society publications and standard references including *Mathematical Reviews*. The nature of research in the mathematical sciences and research methodology.

MAT 599. Thesis (1-6)

COMPUTER SCIENCE

CSC 504. (MAT 504) Advanced Discrete Structures (3) Prerequisite: CSC 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

CSC 509. (MAT 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

CSC 525. (425) (MAT 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximation; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations; error analysis. Certain algorithms are selected for programming.

CSC 532. (432) Advanced Data Structure (3) Prerequisite: Undergraduate linear algebra and data structures. Advanced topics in data structures, with emphasis on algorithmic complexity. Recursive list manipulations; paradigms of search; bi-connectivity, strong connectivity, and precedence relations in graphs; pattern matching; search trees; methods for memory management and secondary storage; optimal techniques for sorting, merging, and selection.

CSC 575. Advanced Computer Graphics (3) Prerequisite: Undergraduate linear algebra, elementary numerical methods, data structures, and some prior familiarity with graphics. Brief review of two-dimensional graphics. Topics may include: approximation methods for curves, representations for solids, transformations, projections, hidden lines and surfaces, ray tracing, radiosity. Extensive programming required.

CSC 592. Topics in Computing (3) Prerequisite: Consent of instructor. Topics in computing of current interest not covered in existing courses.

STATISTICS

STT 505. Data Analysis (3) Prerequisite: STT 362. Introduction to exploratory data analysis. Use of stem and leaf plots, boxplots. Transformations of data, resistant lines, analysis of two-way tables, residual analysis. Comparison of robust/resistant methods with standard statistical techniques.

STT 511. (411) Design of Experiments and Analysis of Variance (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; design of experiments including completely randomized, randomized block, factorial, split-plot, and repeated measures designs; analysis of variance; non-parametric alternative methods of analysis. Statistical software packages will be used as appropriate in problem solving.

STT 512. (412) Applied Regression and Correlation (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; linear and multiple regression; correlation. Statistical software packages will be used as appropriate in problem solving.

STT 530. (430) Introduction to Non-parametric Statistics (3) Prerequisite: STT 362. Theory and methods of non-parametric statistics in the one- and two-sample problems and their comparisons with standard parametric procedures. Non-parametric tests for comparing more than two samples; tests of randomness and independence.

STT 540. (440) Linear Models and Regression Analysis (3) Prerequisite: STT 362. Theoretical introduction to the general linear model and its application to simple linear regression and multiple regression. Estimation and hypothesis testing of model coefficients; residual analysis; analysis of covariance.

STT 565. (465) (MAT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

STT 566-567. (466-467) Mathematical Statistics (3-3) Prerequisite: STT 362. A rigorous introduction to mathematical statistics. Univariate and multivariate probability distributions; conditional and marginal distributions; theory of estimation and hypothesis testing; limiting distributions and the central limit theorem; sufficient statistics and the exponential class of probability density functions.

STT 568. (MAT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

STT 569. (MAT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

STT 592. Topics in Statistics (3) Prerequisite: Consent of instructor. Topics in statistics of current interest not covered in existing courses.

THE CAMERON SCHOOL OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION

The Cameron School of Business Administration offers a program of study leading to a Master of Business Administration degree for any qualified holder of a bachelor's degree from an accredited college or university regardless of undergraduate field of study. The program's objective is the development of the broadly educated professional manager.

Admission Requirements

Applicants seeking admission to the graduate program in business administration are required to submit the following to the Graduate School:

(1) An application for graduate admission

(2) Official copies of transcripts of all college work (undergraduate and graduate)

(3) Official scores on the Graduate Management Admission Test (GMAT)

(4) Three recommendations including one from an employer or supervisor who can comment on the applicant's work experience and potential for successful completion of a master's program. A strong overall academic average, a total score of 1,000 or more based on the formula: 200 times the upper division grade point average (4.0 systems) plus the GMAT score, and at least one year of appropriate full-time work experience are minimum requirements for consideration for graduate admission. However, admission decisions are based upon several factors, and if other indicators of success are evident, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. 54 semester credit hours of approved graduate credit must be satisfactorily completed for the degree. This number of credit hours may be reduced for students who qualify for, and are granted, certain course waivers. Petitions for waiver are submitted to the dean of the Cameron School of Business Administration upon acceptance for admission into the program. Despite the number of waivers granted, a minimum of 42 semester hours of graduate study must be completed. Up to six hours of graduate study may be accepted as transfer from an accredited college or university. However, the last 36 hours of graduate study must be completed at the University of North Carolina at Wilmington.

2. The student must satisfy a minimal mathematics requirement in calculus. This requirement may be satisfied by completing MAT 151, its equivalent, or by passing the Advanced Placement Test (AB) in calculus.

3. The student must successfully complete a qualifying examination consisting of a oral comprehensive examination.

4. Each student must complete the approved course of study within five years of the date of first registration for graduate study.

Course Requirements for the Master of Business Administration Degree

Students with undergraduate or graduate work in business administration may have the program of study reduced through waivers for certain courses. Students with no prior work in business administration will be required to take the following program.

A. Core Requirements (24 semester hours)

The following courses comprise the core of knowledge essential to a basic understanding of modern business and managerial practice. These courses must be completed by each student unless evidence is presented of substantial academic work in such courses at the undergraduate or graduate level. Requirements may be waived on a course-by-course basis by the MBA Advisory Committee, subject to approval of the dean of the Cameron School of Business Administration.

ACG 501	Financial Accounting (3)
ECN 520	Economic Analysis I (3)
PDS 513	Quantitative Methods (3)
PDS 518	Management Information Systems (3)
BLA 560	Legal Environment and Business Regulation (3)
MGT 550	Organization Theory and Behavior (3)
FIN 535	Managerial Finance (3)
MKT 540	Marketing Management (3)

B. Professional Competence and Integrative Applications (24 semester hours)

In addition to the Core Requirements, the following courses develop depth and breadth of knowledge and provide analytical skills for practical application.

ACG 502	Managerial Accounting (3)
ECN 521	Economic Analysis II (3)
MGT 555	Practice of Management (3)
PDS 517	Production/Operations Management (3)
MGT 565	Current Issues in Business (1-1-1)
MGT 595	Corporate Policy and Strategy (3)
FIN 536	Financial Policy (3)
MKT 546	Strategic Marketing (3)

C. Electives (six semester hours)

Candidates will strengthen their knowledge and sharpen their skills in particular areas by taking at least two courses from the elective areas: accountancy, economics, management, marketing, finance, production and decision sciences.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

Course Descriptions

ACCOUNTANCY

ACG 501. Financial Accounting (3) An intensive course in accounting principles with special emphasis on the concepts underlying income determination, preparation and interpretation of financial statements and the managerial uses of accounting information. Topics include transaction analysis, asset valuation and expense and revenue recognition, capital structure and tools of financial analysis.

ACG 502. Managerial Accounting (3) Prerequisite: ACG 501. Interpretation and use of accounting information in the planning, coordination and controlling of business activities. Topics include cost behavior, manufacturing and distribution cost-volume-profit relationships; effects of taxation and price-level changes on business decisions; budgeting and responsibility accounting. Case studies emphasized.

ACG 503. Advanced Managerial Accounting (3) Prerequisite: ACG 502. An in-depth study of cost concepts appropriate for decision-making and of the budgetary procedures used in planning and control. Emphasis is placed on relating recent advances in the quantitative and behavioral sciences to the role of the contemporary managerial accountant. Case analysis is emphasized.

ACG 506. Current Issues in Financial Accounting (3) Prerequisite: ACG 501. Advanced study of the principles and theory underlying the preparation of financial statements. Consideration is given to the problems related to pension plans, long-term leasing arrangements, refunding of bonds outstanding, allocation of income taxes, changing price levels, and other controversial issues. Utilizes text, authoritative statements, and articles from the current literature.

ACG 508. Taxation and Business Decisions (3) Prerequisite: ACG 502. The accounting and managerial effects of taxation upon decisions, policies, and procedures in the planning, organization, and operation of a business enterprise. Areas covered include the taxing process; taxation of individuals, corporations and fiduciaries; investment incentives; capital gains and losses; tax shelters; and tax planning. Problems and case analysis are used.

ACG 565. Current Issues in Business (1-1-1) (see MGT 565.)

ACG 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

BUSINESS LAW

BLA 560. Legal Environment and Business Regulation (3) A study of the management process and how it is influenced by the constitutional, legislative, judicial, regulatory, administrative, and social forces exerted on the business and social environment.

BLA 565. Current Issues in Business (1-1-1) (See MGT 565.)

BLA 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MANAGEMENT

MGT 550. Organization Theory and Behavior (3) Study of historical, theoretical and practical foundations for understanding organizational structure, behavior and performance. Emphasis on problem solving issues and applications in design, leadership, motivation and interpersonal communications.

MGT 555. Practice of Management (3) Prerequisite: BLA 560 and MGT 550. Major problems and decision areas confronting middle and upper-level managers. Topics include long-range planning, management by objectives, project management, leadership style, and performance appraisal. Case analysis is used to foster application of current managerial techniques to the analysis, solution, and prevention of organizational problems.

MGT 556. Human Resource Systems (3) Prerequisite: MGT 550. A study of manpower planning, training and development, job analysis, employee evaluation, labor legislation, history of the labor movement and the processes for negotiating and establishing workplace rules and procedures. Designed to foster understanding of the management of human resources rather than a technical orientation.

MGT 558. Organizational Behavior (3) Prerequisite: MGT 550. An examination of the persistent human problems in organizations including motivation, resistance to change, interpersonal and intergroup conflict, managing superior/subordinate relations. This course incorporates ideas from the behavioral sciences to provide a foundation for identifying and solving the human side of an organization's operations. Case studies are emphasized.

MGT 565. Current Issues in Business (1-1-1) Current and emerging issues that affect and are affected by business. Topics focus on three major categories: (1) International Business; (2) Communications and Technology; and (3) Business Trends and Developments. At least three hours are required and each candidate must include at least one hour in each of the above categories.

MGT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MGT 595. Corporate Policy and Strategy (3) Prerequisite: To be taken in the final year of the candidate's program of study. An integrative course focusing on factors considered by top-level executives in formulating both short-term and long-term corporate strategies. Particular attention is directed toward analysis of business trends, development of corporate strengths, and formulation of policies and plans. Involves extensive use of case analysis.

ECONOMICS

ECN 520. Economic Analysis I (3) Prerequisite: The mathematics of calculus. Economic analysis of demand, cost, resource allocation, and decision-making in alternative market structures for an individual firm and household perspective. Aggregate economic analysis examining monetary and fiscal policy and their effects on employment, income and the price level.

ECN 521. Economic Analysis II (3) Prerequisite: ECN 520 and PDS 513. An examination of the economic environment in which businesses make decisions. Particular attention to world-wide economic integration and decision-making in this environment. Topics emphasize government economic policy as to its effects on the cost, availability and use of funds. Hedging and financial decision-making in an international context receive special consideration.

ECN 526. International Trade and Finance (3) Prerequisite: ECN 520 and FIN 535. A study of the principles underlying world trade, exchange rate adjustments, balance of payments analysis, international financial markets, direct foreign investment, the international monetary system and the new international economic order. Discusses U.S. commercial policy, transnational corporations, international joint ventures, economic integration, preferential treatment and world-wide trading practices.

ECN 528. International Financial Instruments & Markets (3) Prerequisite: ECN 521 and FIN 535. An overview of world-wide money and capital markets. Sources, uses and cost of funds and the impact of various central banks and treasuries are analyzed from a world-wide integrated market prespective. Primary emphasis on financial decision making in an integrated world economy with flexible exchange rates.

ECN 565. Current Issues in Business (1-1-1) (see MGT 565.)

ECN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

FINANCE

FIN 535. Managerial Finance (3) Prerequisite: ACG 501 and ECN 520. Financial decision-making in the modern business organization. A study of the basic principles, concepts, and analytical tools in the primary areas of finance including valuation models, cost of capital, capital budgeting, capital structure, and working capital policy.

FIN 536. Financial Policy (3) Prerequisite: FIN 535. Conceptual foundations for theories in the major areas of financial management, the theoretical context and validity of formalized techniques for improving decision making in capital budgeting, capital structure, dividend policy, mergers, bankruptcy, the use of convertible securities, and international finance. Case studies used extensively to supplement the conceptual foundations.

FIN 537. Financial Institutions and Markets (3) Prerequisite: FIN 535. Financial institutions as suppliers of funds to the money and capital markets. Comparative financial policies and portfolio considerations of institutions in the context of their changing market environments. The impact of the economic and regulatory climate on portfolio adjustments also are examined. Cases and bank simulation analysis used.

FIN 538. Investments and Portfolio Analysis (3) Prerequisite: FIN 535. Analysis of financial assets as appropriate investment alternatives. Analysis and evaluation of securities and portfolio management. Securities market information and theories of security selection are examined.

FIN 565. Current Issues in Business (1-1-1) (See MGT 565.)

FIN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MARKETING

MKT 540. Marketing Management (3) An examination of the major factors to be considered in the analysis, development, and control of marketing programs. Particular attention is directed to decisions concerning product service offering, price strategy, promotional methods, and the channels of distribution. Emphasis is placed on the role that marketing plays in the overall operation of the firm.

MKT 546. Strategic Marketing (3) Prerequisite: MKT 540. Major factors considered are setting marketing objectives, identifying market opportunities, selecting target markets,

developing new products, formulating integrated marketing strategies, and solving marketing problems. Case analysis is used extensively to foster the application of marketing models and techniques to improve organizational performance.

MKT 548. Promotional Management (3) Prerequisite: MKT 540. Theories and practices of advertising, sales management, and sales promotion as they relate to the total marketing effort. Attention is directed to sales forecasting, media analysis, and the criteria for evaluating the results of the integrated marketing program. Case study is emphasized.

MKT 549. Marketing Research and Analysis (3) Prerequisite: PDS 513 and MKT 540. An examination of methods of gathering, processing, and analyzing information from the marketplace. Topics covered include problem identification, research design, primary and secondary sources of data, methods of data collection, scaling methods, and sampling techniques. Particular attention is directed to data-generation methods and improving marketing decision-making.

MKT 565. Current Issues in Business (1-1-1) (See MGT 565.)

MKT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

PRODUCTION AND DECISION SCIENCES

PDS 513. Quantitative Methods (3) Prerequisite: Completion of mathematics through calculus. Techniques for the analysis of business data. Topics include descriptive and inferential statistical methods, probability theory, and linear programming.

PDS 514. Advanced Quantitative Methods (3) Prerequisite: PDS 513. Quantitative techniques for the solution of business problems. Topics include mathematical programming, simulation, queueing theory, network theory, and game theory. Emphasizes the mathematical formulation and solution of problems using a computer.

PDS 517. Production/Operations Management (3) Prerequisite: PDS 513 and MGT 550. Techniques to aid the operations manager in making key decisions during the initial, online, and control stages of production. Topics include product and process design; facility size, location and layout; demand forecasting; production and work-force planning; quality control; and facilities maintenance. Formulation of problems for solution by the computer is an integral part of the course.

PDS 518. Management Information Systems (3) A study of the process of analyzing, designing, and implementing computer-based systems that have information as their product. Minicomputer and microcomputer projects provide opportunities for comparing concepts with actual systems. An introduction to the BASIC programming language and orientation on the VAX minicomputer system are integral parts of the course.

PDS 519. Advanced Business Statistics (3) Prerequisite: PDS 513. Advanced statistical applications used to support the business decision-making process. Topics include

multiple linear regression, nonlinear regression, time-series analysis, experimental design, decision theory, and non-parametric statistics.

PDS 565. Current Issues in Business (1-1-1) (See MGT 565.)

PDS 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

SCHOOL OF EDUCATION

MASTER OF EDUCATION

The School of Education offers four master's degree programs in professional education: (1) a Master of Education program in elementary education, (2) a Master of Education program in reading education, (3) a Master of Education program in special education with a track in cross-categorical areas, (4) a Master of Education program in educational administration and supervision with tracks in educational administration and supervision.

Admission Requirements

Applicants seeking admission to a graduate program in education are required to submit the following to the Graduate School:

(1) An application for graduate admission
(2) Official copies of transcripts of all college work (undergraduate and graduate)
(3) Official scores on the Miller Analogies Test
(4) Three recommendations by individuals in relevant professional fields

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in elementary education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in early childhood education, intermediate education, elementary education, or middle grades education. Applicants to the program in special education are required to hold or be qualified to hold, North Carolina Class "A" special education teacher certification in at least one area of exceptionality and are required to have taken at least one course in mental retardation, one course in learning disabilities, and one course in emotional disturbance. Applicants to the educational administration and supervision and reading programs are required to hold, or be qualified to hold North Carolina Class "A" elementary, middle grades or secondary teacher certification.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exception is appropriate may include community college administrators and teachers. In such instances, the programs may be modified appropriately. However, upon completion of the graduate program individuals admitted under such exceptions are not qualified for the institution's recommendation for North Carolina Board of Education instructional or administrative certification.

Students who seek professional improvement, but do not intend to pursue a degree may register for graduate courses through procedures established for non-degree students.

Degree Requirements

Elementary Education

The program leading to the Master of Education degree in elementary education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in early childhood education (K-4), or intermediate education (4-6) or elementary education. The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies common to both specialties, 18 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and elementary specialty courses. The National Teacher Examination, specialty area, is required for certification.

I. Elementary Core

EDN 500	Human Development and Learning (3)
EDN 502	The School as a Social System (3)
EDN 523	Research in Education (3)
	or
EDN 525	Tests, Measures and Measurement in Education (3)
EDN 530	Curriculum (3)

II. Elementary Specialty Courses

Choose six courses, at least one from each of the following groups.

A. Mathematics

EDN 542	The Teaching of Mathematics (3)
*EDN 546	Diagnosis and Remediation in Mathematics (3)

B. Literacy

EDN 501	Language Development (3)
*EDN 534	Teaching Developmental Reading (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
EDN 537	Linguistics for Teachers
EDN 538	Teaching of Writing (3)
EDN 539	Children's Literature (3)
EDN 540	Adolescent Literature
EDN 547	Integrating Language Arts and Reading: Classroom Practice (3)

C. Social Studies

EDN 543	The Teaching of Social Studies (3)

D. Science

EDN 544	Teaching of Science in the Elementary Schools (3)
EDN 548	Inquiry - The Method of Science (3)

III. Electives

Six semester hours.

EDN 599	Thesis may be selected (1-6 hours)

*Field-based activities will be required in this course. Such activities will be designed co-operatively and supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education, or Tests, Measures, and Measurement in Education. A comprehensive examination will be required.

Reading Education

The program leading to the Master of Education degree in reading education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification.

The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of controlled electives.

Based upon the view of the professional as decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a reading specialization with related language arts options. The National Teacher Examination, specialty area, is required for certification.

I. Reading Education Core

EDN 500	Human Development and Learning (3)
EDN 523	Research in Education (3)
EDN 525	Tests, Measures and Measurement in Education (3)
EDN 530	Curriculum (3)

II. Concentration

A. Group I (3 hours)
Select one:

EDN 501	Language Development (3)
EDN 537	Linguistics for Teachers (3)

B. Group 2 (15 hours)

EDN 505	The Reading Process (3)
*EDN 534	Teaching Developmental Reading (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 536	Teaching Reading in the Content Areas (3)
*EDN 572	Practicum in Reading (3)

C. Group 3 (6 selected hours)

EDN 538	The Teaching of Writing (3)
EDN 539	Children's Literature (3)
EDN 540	Adolescent Literature (3)
EDN 545	Black Literature and Resources for Teachers (3)

*EDN 547	Integrating Language Arts and Reading: Classroom Practice (3)
EDN 5594	Adult Literacy (3)
*EDN 573	The Disabled Reader (3)
EDN 599	Thesis (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed in the required course, Research in Education. A comprehensive examination will be required.

Applicants who do not hold North Carolina Class "A" teacher certification may be admitted. In such cases, the specified undergraduate courses necessary for education certification will be required in addition to the graduate courses.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Special Education

The program leading to the Master of Education degree in special education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in special education in at least one area of exceptionality. The program is cross categorical in nature with emphasis in three areas of the mildly handicapped: mental retardation, learning disabilities, and behaviorally/emotionally handicapped. The 36-semester hour program is comprised of 15 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and three semester hours of controlled electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a concentration in special education. The National Teacher Examination, specialty area, is required for certification.

I. Special Education Core (15 hours)

EDN 501	Language Development (3)
EDN 503	Exceptional Child Development (3)
EDN 511	Organizational Behavior (3)
EDN 523	Research in Education (3)
EDN 530	Curriculum (3)

II. Concentration (21 hours)

A. Group 1 (18 hours)

EDN 524	Consultation Strategies for Teachers of Exceptional Children (3)
*EDN 535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 546	Diagnosis and Remediation in Mathematics (3)
EDN 552	Program Development for the Mildly Handicapped (3)
EDN 553	Classroom Management of Mildly Handicapped Children (3)
*EDN 574	Practicum in Special Education (3)

B. Group 2 (3 selected hours)

EDN 504	Issues and Trends in Special Education (3
EDN 554	Educating Young Handicapped Children (3)
EDN 555	The Mildly Handicapped Adolescent (3)
EDN 591	Independent Study (3)
EDN 595	Selected Topics in Education (related to exceptional children) (3)
EDN 599	Thesis, may be selected (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education. A comprehensive examination will be required.

Students who are accepted provisionally (without at least one course in mental retardation, one course in learning disabilities, and one course in behaviorally, emotionally handicapped) will take these courses before receiving the master's degree.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Educational Administration and Supervision

The Master of Education program in educational administration and supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instruction specialist. The 33-semester hour program is comprised of 15 semester hours of conceptual and technical studies common to both specialties, 12 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed. The National Teacher Examination, specialty area, is required for certification

I. Administration-Supervision Core

EDN 502	School as a Social System (3)
EDN 510	Organization and Control of American Education (3)
EDN 51	Organizational Behavior (3)
EDN 521	Decision-Making (3)
EDN 523	Research in Education (3)

II. Administrative Track

EDN 512	Legal Structures in Education (3)
EDN 560	Personnel Administration (3)
*EDN 561	Leadership Application (3)
*EDN 570	Internship in Educational Administration (3) Electives, Six semester hours
or	
EDN 599	Thesis, may be selected (6)

III. Supervision Track

EDN 500	Human Development and Learning (3)
*EDN 520	Instructional Development (3)
*EDN 530	Curriculum (3)
*EDN 571	Internship in Educational Supervision (3)
	Electives, Six semester hours
or	
EDN 599	Thesis, may be selected (6)

Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, EDN 521, Decision Making, and EDN 523, Research in Education. A comprehensive examination will be required.

MASTER OF ARTS IN TEACHING

The School of Education offers a program of study leading to the Master of Arts in Teaching degree. This program is comprised of a core of professional studies designed to enhance the instructional decision-making skills of secondary teachers and a specialization track designed to enhance knowledge of subject matter, structure of the disciplines, the appropriate modes of inquiry. The program seeks to address the continuing commitment to strengthen the university's contribution to the improvement of educational service to the clients of elementary and secondary schools in southeastern North Carolina through the Master of Arts in Teaching for secondary teachers in the following specialties: biology, chemistry, English, history, and mathematics.

The Master of Arts in Teaching program provides advanced academic and professional study and training for individuals holding, or qualified to hold, North Carolina Class "A" secondary teacher certification in one of the academic specialty fields included in the program. The program is comprised of 36 semester hours, 12 in professional education as specified below, and 24 in the academic specialty.

Admission Requirements

Applicants seeking admission to the Master of Arts in Teaching program are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields

A combined score of 1000 on the verbal and quantitative portions of the Graduate Record Examination; also, where required by the corresponding M.A. and M.S. program, applicants to the Master of Arts in Teaching program will be required to submit scores on the relevant specialty portion of the Graduate Record Examination; a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; an overall academic average of "B" or better in the basic courses prerequisite to the area of proposed graduate study; and hold, or be qualified to hold, North Carolina initial teacher certification in the area of proposed study.

Degree Requirements

1. The program requires a minimum of 36 semester hours, with 12 prescribed in professional education and 24 in the area of academic specialization. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. A written comprehensive examination addressing both the professional core and the academic specialty will be required.

3. The program shall be completed within five years of the date of first registration for graduate study.

I. Professional Core

EDN 500	Human Development and Learning (3)
EDN 520	Instructional Development (3
EDN 523	Research in Education (3)
EDN 565	Curriculum and Instruction in Secondary Subjects (3)

II. Academic Track

A. Biology

24 semester hours are required. Of this number, three are common to all students, and 21 will be selected in consultation with the program advisement committee. The common requirements are:

BIO 501	Introduction to Scientific Research and Presentation (1)
BIO 593	Colloquium (1)
BIO 595	Seminar (1)

B. Chemistry

24 semester hours are required. Of this number, five are common to all students, and 19 will be selected in consultation with the program advisement committee. Within the latter category, a maximum of six semester hours may be selected from other disciplines in the natural and mathematical sciences. The common requirements are:

CHM 501	Introduction to Chemical Research (1)
CHM 591	Directed Individual Study (Chemical Research) (3)
CHM 595	Graduate Seminar (1)

C. English

24 semester hours are required. Of this number, 18 are specified among four areas, and six may be selected in consultation with the program advisement committee. The common requirements are:

ENG 501	Introduction to Research Methods in English (3)
ENG 502	Introduction to Literary and Writing Theory (3)
ENG 520	Linguistics (3)
ENG 572	Literary Theory and Criticism (3)

In addition, all students will select at least two courses in the study of literature, which may include EDN 545, Black Literature and Resources for Teachers (3). Students will utilize the remaining six semester hours to extend one of three areas of interest: linguistics, writing, and literature.

D. History

24 semester hours are required in the following pattern:

HST 500	Historiography and Methodology (3)

A 12-semester hour concentration, including seminar and colloquium in one of the following areas:

American history
European history
Non-western history

Six to nine semester hours selected from the two remaining concentration areas. Three semester hours may be selected from another social science or humanities discipline, but may not be included in the concentration. The program also shall meet the following additional constraints: Two additional seminar or colloquium courses and two post-1900 courses, at least one of which must be in the concentration area.

E. Mathematics

24 semester hours are required. Of this number, 12 are common to all students and 12 will be selected in consultation with the program advisement committee. The common requirements are:

MAT 511-512	Real Analysis I, II
MAT 541-542	Modern Algebra I, II

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500. Human Development and Learning (3) Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501. Language Development (3) Focus on the development of language and its relation to cognitive processes in young children. Theories of language learning and growth are explored in terms of patterns of evidence and in terms of implications for decision-making affecting school children. Concepts associated with language structure, functions, and processes are developed. A variety of language and language-education topics are explored.

EDN 502. The School as a Social System (3) Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, and biculturalism.

EDN 503. Exceptional Child Development (3) Prerequisite: EDN 501. Designed to provide and understanding of the intellectual, emotional, and physical development of exceptional children. The interplay of biological and environmental factors that produce deviations in development is examined. Organized around a developmental approach to the study of exceptionality that suggests strategies for determining bases of exceptionality. Implications of development differences for the special educator will be stressed.

EDN 504. Issues and Trends in Special Education (3) Designed to focus on emerging directions related to the education of exceptional children. Relevant social, educational, bio-medical, developmental, psychological, and legal issues will be examined as well as implications for the schools.

EDN 505. The Reading Process (3) Prerequisites: EDN 523, 525, or consent of the instructor. Develops conceptualization of the process of reading in mature readers and of stages in literary development. Analysis of psychomotor and psycholinguistic parameters of reading, word recognition and sentence processing both for beginning and advanced readers, the task of learning to read, factors affecting reading development, and of schema theories of comprehension.

EDN 510. Organization and Control of American Education (3) Designed to include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511. Organizational Behavior (3) Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social-systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512. Legal Structures in Education (3) Prerequisites: EDN 510 or approval of department. Designed (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally consistent practices.

EDN 520. Instructional Development (3) Designed to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and objective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experience.

EDN 521. Decision-Making (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities in identification and analysis of decision situations and decision alternatives, in procedures for choice and in design and analysis of educational information system. Contents will include study of alternative decision-making models, procedures for choice, evaluation of educational programs, and educational information systems. The activities will include lecture, discussion, and simulated and real applications to decision situations in schools systems.

EDN 522. Educational Media (3) Designed to provide students with the theory and practical skills necessary for selecting, producing, and evaluating mediated materials in education. Students will learn to produce a variety of audio-visual materials including graphics, transparencies, slides, video-tapes. In addition, there will be considerable

emphasis on photography including developing and printing. Instruction in operating and troubleshooting equipment also will be treated. The primary goal of this course is to develop confidence and competency in the media area. This course will include lectures and a workshop format. Students will produce a variety of mediated projects during the course.

EDN 523. Research in Education (3) Designed to develop research competencies required for interpretation and critique of research report and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 524. Consultation Strategies for Teachers of Exceptional Children (3) Designed to develop communication skills relevant for the decision-making roles of the special education teacher. Emphasis on group dynamics, conflict resolution, generation of alternative solutions, interview procedures, parent conferences, team meetings, orientation of general educators, and mainstreaming handicapped children.

EDN 525. Tests, Measures, and Measurement in Education (3) Prerequisite: EDN 201, EDN 520, or approval of instructor. Design to develop a conceptual framework for obtaining and interpreting data about behavioral and psychological traits of persons that may be needed for a variety of purposes. Particular attention will be given to developing understanding of validity of measures for the intended purposes and for assessing the trait that is intended to be measured. Students will learn to make judgments of validity of testing systems and to develop valid tests and testing systems. Mathematical and statistical tools will be studied for analyzing items, tests, and scores and students will practice their use. Students will learn to use computers for test development, and test administration, and to analyze records of performance on tests.

EDN 530. Curriculum (3) Develops a conceptual framework for understanding curriculum in relation to other aspects of educational systems. Students learn to evaluate curricula in terms of structural elements, underlying value orientations, and assumptions about subject matter and about learning. Introduction to issues of curriculum change, implementation, evaluation, development, and design.

EDN 531. Study of Teaching in Early Childhood Education (3) Designed to improve teaching performance and to develop competencies in the critical analyses of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532. Comparative Studies in Early Childhood Education (3) Prerequisite: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an in-depth cross-cultural survey of early childhood education in selected countries. The history of philosophical thoughts, the political and socio-economic changes and re-

search efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533. Early Childhood Education in Focus (3) Prerequisite: EDN 500, 501, 502, or approved of department. Designed to develop the ability to look to current trends and issues in early childhood education. Objectively, this course will include critical analysis of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 534. Teaching Developmental Reading (3) Develops understandings of an effective classroom reading program. Reviews practices, materials, and approaches for teaching basic reading skills through the analysis of research literature and critique of personal beliefs and practices.

EDN 535. Diagnosis and Teaching of Reading/Language Arts (3) Designed for the elementary, special education, and reading teachers, this course focuses on the comparison of alternative models for assisting individual learners with literacy/language learning. Students review current diagnostic tests, new diagnostic procedures, develop teaching strategies and apply those understandings to the tutoring of individual students. A diagnostic report is generated. Students are expected to articulate a position concerning the viability of models for diagnostic teaching in their school setting.

EDN 536. Teaching Reading in the Content Area (3) Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in a particular content area.

EDN 537. Linguistics for Teachers (3) A study of current American English and of the principles of analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom. Includes exploration of language related educational issues such as bilingualism, dialects, and disorders.

EDN 538. The Teaching of Writing (3) Intensive review of principles of grammar, rhetoric and usage (approximately 1/2 of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539. Children's Literature (3) Develops skills and understanding to improve teachers' competencies in formulating sound literature programs. Includes in-depth study of the functions of children's literature and criteria for evaluation of types of literature suitable for children at various developmental levels. Factors influencing change such as paperbacks, representation of minorities, sexism, and censorship will be discussed.

EDN 540. Adolescent Literature (3) A comprehensive study of literature appropriate for the middle grades, its value in the school curriculum and its importance in fulfilling intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related material are covered. Projects related to instructional preparation and student activities are required.

EDN 542. The Teaching of Mathematics (3) Focus on materials and methods for teaching mathematics in grades K-9, with emphases on the logical, psychological, and sociological foundations of mathematics education. A survey of curricula appropriate at the K-9 level. Library research in current topics related to the teaching of mathematics.

EDN 543. The Teaching of Social Studies (3) Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544. Teaching of Science in the Elementary School (3) To assure that science at the elementary school level is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at the elementary school level. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545. Black Literature and Resources for Teachers (3) A survey of black literature, including the examination of material published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 546. Diagnosis and Remediation in Mathematics (3) The study and application of teaching mathematics in the diagnostic mode. Included will be a historical review of diagnostic procedures in mathematics, a survey of mathematics curriculum, an examination of the theoretical models of diagnosis and of materials useful to the classroom teacher or clinician. Intensive work with children experiencing difficulty in mathematics will be required.

EDN 547. Integrating Language Arts and Reading: Classroom Practice (3) Develops student ability to conceptualize and implement a classroom communication arts program. Analyzes patterns of learning and practices in teaching language arts processes and skills. Examines strategies for fostering language arts growth through integrated language activities. Field activity required.

EDN 548. Inquiry — The Method of Science (3) The course assumes initial-level competency in the curriculum and methods of science. The course will focus on the conceptualization of and rationale for using the inquiry method of teaching science. Students will participate in activities taken from a variety of science curriculum programs for elementary through senior high school. The course also will provide students with an opportunity to acquire and practice the skills needed to utilize the inquiry

method and to guide scientific investigations at K-12 levels. Methodology and types of activities appropriate to the student's level of teaching will be selected.

EDN 549. Middle School Education (3) Study of educational programs for upper elementary education (junior high, middle school, intermediate school). Review of learning, physical, and social characteristics of "transescents" and historical and current approaches to their education. Comparison and contrast of curriculum, instruction, administrative and organizational features of exemplary and typical intermediate, middle and junior high schools.

EDN 550. Nature and Needs of Exceptional Children (3) This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics, etiology, educational procedures, and psycho-social implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is open only to elementary majors and administration/supervision majors.

EDN 552. Program Development for Mildly Handicapped (3) Prerequisites: EDN 502 and 530. Designed to develop an understanding of how to develop and teach relevant curricula to handicapped children through systematic instruction. Focus on characteristics and etiology, assessment, planning, implementation of instructional plans, and selection and utilization of appropriate methods and materials for a wide range of curricular areas.

EDN 553. Classroom Management of Mildly Handicapped Children (3) Designed to develop knowledge and skills, necessary for planning and implementing various classroom management strategies. Focus on observation and measurement of behaviors, design of classroom management strategies, utilization of strategies in the special education and regular classroom environment.

EDN 554. Educating Young Handicapped Children (3) Overview of early childhood education for the handicapped. Trends toward early identification of handicapping conditions and appropriate intervention strategies will be examined. Methods for dealing with developmental delays in regular and special preschool settings will be studied. Working with parents and primary caretakers of young handicapped children will be emphasized.

EDN 555. The Mildly Handicapped Adolescent (3) Designed to provide a basis for understanding the educational needs of mildly handicapped adolescents. The following topics will be covered during the course: the impact of handicapping conditions on the developmental tasks of adolescence; strategies for the remediation of deficits in basic skills; the interrelationship of vocational intervention; the current status of educational programs for the mildly handicapped.

EDN 559. Adult Literacy (3) Examines the definition of illiteracy and the problem of adult literacy. Reviews approaches to dealing with the problem from philosophical, pedagogical, and sociological bases. Reviews the many movements to overcome the problem in the United States and abroad. Provides students with ideas, methods, and materials for teaching adults to read.

EDN 560. Personnel Administration (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop knowledge, skills, and abilities in specification and analysis of roles and role performance, and in selection, supervision, and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures and a variety of simulated personnel related tasks.

EDN 561. Leadership Applications (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop skills and abilities in analysis, initiation, establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management, communications, information systems, and budgeting. Activities will include lecture, discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562. Automation in Administrative and Instructional Practices (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563. Educational Environments (3) Prerequisites: EDN 502, 510, 511, or approval of department. Designed to develop knowledge, skills, and abilities in the analysis, design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564. Politics and Policy-Making in Education (3) Designed to study the theories, processes, functions, limits, alternatives, goals, and consequences of policy-making as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 565. Curriculum and Instruction in Secondary Subjects (3) Prerequisites: EDN 500, 520, 523 or approval of department. Designed to develop curriculum and instructional skills in the content areas, the course will address generic skills and applications within specific content areas. The student will demonstrate planning and presentation skills in a supervised practicum.

EDN 570. Internship in Educational Administration (3) Designed to provide experience related to major aspects of the role of principal. Observations of principals and as-

sistant principals, with written reports based on these observations and literature reviews. The major emphasis of the internship will be upon aspects of the human-resources management of the principal's role in task areas such as staff development, supervision and evaluation, community relations and student development. Additional topics of investigation will include such administrative task areas as budget development, budget allocation, fiscal management, reporting and instructional scheduling. Students with experience in the role of principal or assistant principal may request waiver of this course requirement.

571. Internship in Educational Supervision (3) Designed to provide experiences related to major aspects of the role of supervisor. Observations of supervisors and written reports based on these observations and literature reviews. The major emphasis of the internship will be upon aspects of the human-resources management of the supervisor's role in task areas such as staff development, teacher relations, principal relations, and relations with outside consultants. Additional topics of investigation will include such supervisory task areas as program planning, curriculum review, budget development, budget allocations, fiscal management, and reporting. Students with experience in the role of supervisor may request waiver of this course requirement.

572. Practicum in Reading (3) Prerequisite: EDN 535. Application of understandings of literacy processes and literacy acquisitions to the level of the classroom. Student designs and implements a classroom program based upon a defensible philosophical perspective.

573. The Disabled Reader (3) Prerequisites: EDN 535, 572. Designed to develop competence and performance in testing teaching, and designing reading/learning programs for the severely disabled reader. Appropriate referral services will be identified. Consultation skills will be developed. Supervised practicum required.

574. Practicum in Special Education (3) Designed to provide a supervised internship in a cross-categorical special education setting. Provides experiences in diagnosing individual needs, developing educational programs, instructing mildly handicapped students, designing and implementing classroom management techniques, and consulting with teachers, administrators, parents and other professionals.

591. Independent Study (3) Prerequisites: 15 semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

594. Seminar in Education (1-4) Designed to assist the elementary reading or special education graduate student in identifying and synthesizing ideas within and across courses and formulating reasoned responses to contemporary educational questions.

595. Special Topics in Education (1-4) Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon

approval of the dean of the Graduate School. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599. Thesis in Education (1-6) Prerequisites: EDN 523, at least 18 additional hours toward completion of the master's degree, and permission of instructor. Intensive study of topic selected by student and approval by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

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The University of North Carolina
at Wilmington
Wilmington, N.C.
28403-3297

Fourth Class
Book Rate

The University of North Carolina at Wilmington

1992-93 Graduate Catalogue

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

GRADUATE CATALOGUE

1992-93

Bulletin 3

The University of North Carolina at Wilmington is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Moreover, the University of North Carolina at Wilmington is open to people of all races and actively seeks to promote racial integration by recruiting and enrolling a larger number of black students.

Questions regarding access to programs following Title VI, Title IX, and Section 504 should be referred to the Compliance Officer, UNCW Chancellor's Office, 601 South College Road, Wilmington, NC 28403-3297, (919) 395-3840 (voice); 395-3550 (fax).

Cover: Hoggard Hall by Wilmington, NC artist Gladys Going Faris, who received her degree in art from the University of Georgia. She has exhibited in solo and in group shows where her work has won arards.

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All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of The University of North Carolina at Wilmington.

2,000 copies of this public document were printed at a cost of $4,331 or $2.17 per copy.

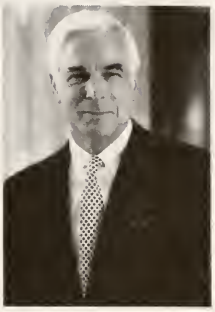
The Board of Trustees at the University of North Carolina at Wilmington are delighted that you have chosen to pursue your graduate studies at UNCW. Our growing graduate programs are evidence of the continuing commitment of the Board of Trustees to provide opportunities for you to pursue your continued education in southeastern North Carolina.

We urge you to enjoy the opportunities that are yours at UNCW. Wilmington offers many different cultural opportunities. Get to know the city and community and you will enjoy your time at UNCW. The faculty and staff at UNCW will provide you with a diverse educational opportunity and learning experience. We are all interested in your success and future growth and development.

Yours very truly,

R. F. Warwick

Robert F. Warwick
Chairman of the Board



As you begin your graduate career at the University of North Carolina at Wilmington, you are entering a challenging time of rigorous academic pursuits. To achieve this level of education, you have already demonstrated scholastic ability and intellectual promise. We welcome your critical thinking and invite you to become a valued member of an intellectual community.

You have chosen an institution where faculty care about students and where students care about building a tradition of academic achievement and research accomplishments. You will learn to love Wilmington with its charm, tradition and access to varied recreational options.

UNCW faculty and staff are vitally interested in your success and are here to help you. I keep regular office hours for students and expect you to come see me if you think I can help, or just to chat.

With all best wishes,

James R. Leutze
Chancellor

1992

JANUARY

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CALENDAR OF EVENTS
1992-93

Fall, 1992

August 10, Monday	Academic year begins
August 15, Saturday	On-campus housing opens for new students only 9 a.m. to 5 p.m.
August 16, Sunday	On-campus housing opens for returning students 12 p.m.
August 16-18, Sunday-Tuesday	Orientation and advising
August 19, Wednesday	Registration*
August 20, Thursday	Classes begin
August 26, Wednesday	Last day to add a class or drop without a grade
September 7, Monday	Labor Day holiday
September 9, Wednesday	Convocation
September 10, Thursday	Faculty meeting
October 7, Wednesday	Fall vacation begins 10:30 p.m.
October 12, Monday	Fall vacation ends 8 a.m.
November 6, Friday	Last day to withdraw with W—graduate students
November 24, Tuesday	Thanksgiving vacation begins 10:30 p.m.; residence halls close
November 29, Sunday	Residence halls open 3 p.m.
November 30, Monday	Thanksgiving vacation ends 8 a.m.
December 4, Friday	Last day of classes
December 5, Saturday	Reading day/Commencement for July and December graduates
December 7-12, Monday-Saturday	Final examinations
December 14-15, Monday-Tuesday	Final examinations
December 15, Tuesday	Graduation application deadline, spring 1993, graduate students
December 15, Tuesday	Fall semester ends/On campus housing closes 10:30 p.m.

*Contact the Graduate School for additional times for graduate registration.

Spring, 1993

January 6, Wednesday	On-campus housing opens for new students only 9 a.m.
January 7, Thursday	Spring semester begins; orientation and advising
January 8, Friday	Registration*
January 11, Monday	Classes begin
January 15, Friday	Last day to add a class or drop without a grade
January 18, Monday	Martin Luther King holiday
February 26, Friday	Spring vacation begins 10:30 p.m.; residence halls close
March 7, Sunday	On campus housing opens 12 p.m.
March 8, Monday	Spring vacation ends at 8 a.m.
March 30, Tuesday	Last day to withdraw with W — graduate students
April 8, Thursday	Easter vacation begins 10:30 p.m.
April 11, Sunday	On campus housing opens 3 p.m.

April 12, Monday	Easter vacation ends 8 a.m.
April 15, Thursday	Faculty Meeting
April 28, Wednesday	Last day of classes
April 29, Thursday	Reading day
April 30-May 1, Friday-Saturday	Final examinations
May 3-8, Monday-Saturday	Final examinations
May 7, Friday	Graduation application deadline, summer 1993, graduate students
May 8, Saturday	Spring semester ends/on-campus housing closes 10:30 p.m.
May 15, Saturday	Commencement, academic year ends

*Contact the Graduate School for additional times for graduate registration.

Summer Session, 1st, 1993

May 20, Thursday	On-campus housing opens 9 a.m.
May 21, Friday	Registration*
May 24, Monday	Classes begin
May 25, Tuesday	Last day for registration
May 26, Wednesday	Last day to add a class or drop without a grade
June 11, Friday	Last day to withdraw with W — graduate students
June 22, Tuesday	Last day of classes
June 23, Wednesday	Final examinations/term ends

Summer Session, 2nd, 1993

June 27, Sunday	On-campus housing opens 12 p.m.
June 28, Monday	Registration*
June 29, Tuesday	Classes begin
June 30, Wednesday	Last day for registration
July 1, Thursday	Last day to add a class or drop without a grade
July 5, Monday	Independence Day holiday
July 20, Tuesday	Last day to withdraw with W — graduate students
July 29, Thursday	Graduation application deadline, fall 1993, graduate students
July 29, Thursday	Last day of classes
July 30, Friday	Final examinations/term ends/on-campus housing closes 10:30 p.m.

*Contact the Graduate School for additional times for graduate registration.

CALENDAR OF EVENTS
1993-94

Fall, 1993

August 9, Monday	Academic year begins
August 14, Saturday	On-campus housing opens for new students only at 9 a.m.
August 15, Sunday	On-campus housing opens for returning students 12 p.m.
August 15-17, Sunday-Tuesday	Orientation and advising
August 18, Wednesday	Registration*
August 19, Thursday	Classes begin
August 25, Wednesday	Last day to add a class or drop without a grade
September 6, Monday	Labor Day holiday
September 8, Wednesday	Convocation
September 9, Thursday	Faculty Meeting
October 8, Wednesday	Fall vacation begins 10:30 p.m.
October 13, Monday	Fall vacation ends 8 a.m.
November 5, Friday	Last day to withdraw with W—graduate students
November 23, Tuesday	Thanksgiving vacation begins 10:30 p.m.; residence halls close
November 28, Sunday	Residence halls open 3 p.m.
November 29, Monday	Thanksgiving vacation ends 8 a.m.
December 3, Friday	Last day of classes
December 4, Saturday	Reading day/Commencement for July and December graduates
December 6-11, Monday-Saturday	Final examinations
December 13-14, Monday-Tuesday	Final examinations
December 14, Tuesday	Graduation application deadline, spring 1994, graduate students
December 14, Tuesday	Fall semester ends/on campus housing closes 10:30 p.m.

*Contact the Graduate School for additional times for graduate registration.

Spring, 1994

January 5, Wednesday	On-campus housing opens for new students 9 a.m.
January 6, Thursday	Spring semester begins; orientation and advising
January 7, Friday	Registration*
January 10, Monday	Classes begin
January 14, Friday	Last day to add a class or drop without a grade
January 17, Monday	Martin Luther King holiday
March 4, Friday	Spring vacation begins 10:30 p.m.; residence halls close
March 13, Sunday	Residence halls open 12 p.m.
March 14, Monday	Spring vacation ends 8 a.m.
March 29, Tuesday	Last day to withdraw with W — graduate students
March 31, Thursday	Easter vacation begins 10:30 p.m.
April 4, Monday	Easter vacation ends 8 a.m.
April 14, Thursday	Faculty Meeting

April 27, Wednesday	Last day of classes
April 28, Thursday	Reading day
April 29-30, Friday-Saturday	Final examinations
May 2-7, Monday-Saturday	Final examinations
May 6, Friday	Graduation application deadline, summer 1994, graduate students
May 7, Saturday	Spring semester ends/On-campus housing closes 10:30 p.m.
May 14, Saturday	Commencement/academic year ends

*Contact the Graduate School for additional times for graduate registration.

Summer Session, 1st, 1994

May 19, Thursday	On-campus housing opens 9 a.m.
May 20, Friday	Registration*
May 23, Monday	Classes begin
May 24, Tuesday	Last day for registration
May 25, Wednesday	Last day to add a class or drop without a grade
June 10, Friday	Last day to withdraw with W — graduate students
June 21, Tuesday	Last day of classes
June 22, Wednesday	Final examinations/term ends

Summer Session, 2nd, 1994

June 26, Sunday	On-campus housing opens 12 p.m.
June 27, Monday	Registration*
June 28, Tuesday	Classes begin
June 29, Wednesday	Last day for registration
June 30, Thursday	Last day to add a class or drop without a grade
July 4, Monday	Independence Day holiday
July 19, Tuesday	Last day to withdraw with W — graduate students
July 28, Friday	Last day of classes
July 29, Friday	Graduation application deadline, fall 1994, graduate students
July 29, Friday	Final examinations/term ends/On-campus housing closes 10:30 p.m.

*Contact the Graduate School for additional times for graduate registration.

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John Lympany, B.S. . . . . *Director of Systems and Procedures*
Kay Ward, B.S. . . . . *Director of Budgets*
Dan Geddie, B.S. . . . . *Director of Financial Reporting*
Towana H. Moore . . . . . *Director of Administrative Services*

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Richard H. Mullendore, Ph.D. . . . . *Associate Vice Chancellor for Student Affairs*
Patricia Leonard, M.A. . . . . *Dean of Students*
Li-Shing Wang, M.A. . . . . *Director of Student Life Studies*
Paul Johnston, Ph.D. . . . . *Director of Student Development Services*
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Kathleen Jewell, M.D. . . . . *Director of Student Health and Wellness Center*
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Dr. John K. Karlof, Mathematical Sciences, term ends August, 1993
Dr. John W. Myers, Fine Arts, term ends August, 1992
Dr. Alan D. Watson, History, term ends August, 1993

Cameron School of Business Administration

Dr. Norman R. Kaylor, Dean, Cameron School of Business Administration
Dr. John M. Garris, Production and Decision Sciences, term ends August, 1994
Dr. John A. Marts, Accountancy & Business Law, term ends August, 1992

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THE UNIVERSITY OF NORTH CAROLINA
Sixteen Constituent Institutions

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HISTORY OF THE UNIVERSITY

HISTORY OF THE UNIVERSITY OF NORTH CAROLINA

In North Carolina, all the public educational institutions that grant baccalaureate degrees are part of the University of North Carolina. The University of North Carolina at Wilmington is one of 61 constituent institutions of the multi-campus state university.

The University of North Carolina, chartered by the N.C. General Assembly in 1789, was the first public university in the United States to open its doors and the only one to graduate students in the eighteenth century. The first class was admitted in Chapel Hill in 1795. For the next 136 years, the only campus of the University of North Carolina was at Chapel Hill.

In 1877, the N.C. General Assembly began sponsoring additional institutions of higher education, diverse in origin and purpose. Five were historically black institutions, and another was founded to educate American Indians. Several were created to prepare teachers for the public schools. Others had a technological emphasis. One is a training school for performing artists.

In 1931, the N.C. General Asssembly redefined the University of North Carolina to include three state-supported institutions: the campus at Chapel Hill (now the University of North Carolina at Chapel Hill), North Carolina State College (now North Carolina State University at Raleigh), and Woman's College (now the University of North Carolina at Greensboro). The new multi-campus University operated with one board of trustees and one president. By 1969, three additional campuses had joined the University through legislative action: the University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington.

In 1971, the General Assembly passed legislation bringing into the University of North Carolina the state's ten remaining public senior institutions, each of which had until then been legally separate: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, the North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This action created the current 16-campus University. (In 1985, the North Carolina School of Science and Mathematics, a residential high school of gifted students, was declared an affiliated school of the University.)

The UNC Board of Governors is the policy-making body legally charged with "the general determination, control, supervision, management, and governance of all affairs of the constitutent institutions." It elects the president, who administers the University. The 32 voting members of the Board of Governors are elected by the General Assembly for four-year terms. Former board chairmen and board members who are former governors of North Carolina may continue to serve for limited periods as non-voting members emeriti. The president of the UNC Association of Student Governments, or that student's designee, is also a non-voting member.

Each of the 16 constituent institutions is headed by a chancellor, who is chosen by the Board of Governors on the president's nomination and is responsible to the president. Each institution has a board of trustees, consisting of eight members elected by the Board of Governors, four appointed by the governor, and the president of the student body, who serves ex-officio. (The NC School of the Arts has two additional ex-officio members.) Each board of trustees holds extensive powers over academic and other operations of its institution on delegation from the Board of Governors.

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

STATEMENT OF INSTITUTIONAL MISSION

The University of North Carolina at Wilmington is a community of scholars dedicated to excellence in teaching, research, artistic achievement, and service to local and global communities. It is an evolving comprehensive university of moderate size that values close relationships among students, faculty, and staff in a diverse, supportive, and challenging intellectual environment.

The University of North Carolina at Wilmington, founded as Wilmington College in 1947, owes much of its development and dynamic character to its heritage and location. The student-centered philosophy of the university comes in part from its origin as a community college with small classes and extensive interaction between students and faculty. With growth, the focus has expanded to include graduate students, bringing increased opportunities for scholarly activities.

As the only public university in southeastern North Carolina, this institution bears a special responsibility for education and service. The university is committed to providing lifelong learning opportunities, assisting with the improvement of public school education, and enhancing the personal, cultural, and economic health of the region. Located in a historic port city, the university provides related experiences in cultural, commercial, and archeological studies. The proximity of the Atlantic Ocean enables the university to be a leader in marine studies and provides an exceptional opportunity to teach and practice environmental awareness and responsibility. The university is dedicated to the preservation of conservation areas on campus that are representative of ecosystems in the region.

The university seeks to stimulate in its students intellectual curiosity, imagination, rational thinking, thoughtful expression, and a love of learning. Knowledge of the humanities, social and natural sciences, and fine arts, along with effective communication and decision-making skills, are central to the curriculum. Students are encouraged to develop an understanding of their own and other cultures in order to appreciate the rich variety of thought and lifestyles that form the world in which they live. The university offers programs to help students clarify values, develop physical well-being, work independently and interdependently, and participate in university governance. The university is committed to providing each student with opportunities, resources, and guidance to achieve personal, academic, and career goals.

Excellence in teaching and creative scholarly activity are fundamental for any university. The pursuit of knowledge and understanding complements effective teaching, sustains intellectual vitality, and is an important contribution to the larger community. Research and artistic endeavors are essential for faculty and students. The university encourages and supports scholarly work and seeks to attract energetic faculty with diverse interests and expertise.

The university provides a secure intellectual, social, and physical environment conducive to achieving its mission. Freedom of thought, expression, and association are fostered and protected. The continuing development of students, faculty, and staff, as well as the maintenance and development of academic and social programs of excellence, are ensured with funds from both public and private sources. Ongoing planning and assessment of services, programs, research, and instruction assure the productive use of resources and assets.

The university remains committed to planned growth, quality programs, and a strong sense of community. The evolution of the university will involve strengthening and expanding

- undergraduate education,
- marine science and marine-related activities,
- research, graduate, and professional programs,
- interdisciplinary programs,
- public service,
- international exchange programs for students and faculty,
- involvement in multicultural, social, environmental, and global issues of current and emerging importance,
- instructional and research resources, and
- campus facilities to meet educational, social, and recreational needs.

Through the activities of its students, faculty, and staff, the University of North Carolina at Wilmington seeks to educate and interact with the diverse community it reflects and serves. Fulfilling its mission strengthens the position of the university within the world's academic community.

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of the University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the academic year 1946-47. In 1947, a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Education. In 1948, Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952, the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958, New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree.

By vote of the Board of Trustees of the University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, the University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of the University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus the University of North Carolina now comprises 16 institutions.

On August 22, 1977, the Board of Governors of the University of North Carolina authorized the University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

In the spring of 1985, the Board of Governors of the University of North Carolina elevated the University of North Carolina at Wilmington to a Comprehensive Level I University.

The programs offered by the university include four-year programs leading to the Bachelor of Arts and Bachelor of Science degrees within the College of Arts and Sciences, the Cameron School of Business Administration, the School of Education, and the School of Nursing; graduate programs leading to the Master of Education, the Master of Science, the Master of Arts, the Master of Arts in Teaching, and the Master of Business Administration degrees; a variety of pre-professional programs; and special programs in a variety of areas, including marine science research and continuing education.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the bachelor's and master's level; and the North Carolina Association of Colleges and Universities. The School of Education is accredited by the National Council for Accreditation of Teacher Education. The university also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support of Education, and is on the list of schools approved by the American Chemical Society. The School of Nursing is accredited by the National League for Nursing.

THE FACULTY

The university seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 412 instructional and research faculty, more than 67 percent hold doctoral degrees.

STATEMENT ON DIVERSITY IN THE UNIVERSITY COMMUNITY

In an effort to address the needs of the total university community, the chancellor has endorsed the following statement of principle proposed by the Human Relations Advisory Committee. As an institution of higher learning, the University of North Carolina at Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity. Accordingly, the university supports policies, curricula and co-curricula activities that encourage understanding of an appreciation for all members of its community and will not tolerate any harassment of or disrespect for persons because of age, sex, color, race, religion, creed, national origin, sexual preferences, political belief or affiliation, handicap, veteran status, marital status, or membership in any organization. For more information concerning the ways that our multicultural learning community may be nurtured and protected, contact the Human Relations committee through the offices of the Chancellor or the Dean of Students.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of the University of North Carolina at Wilmington, in recognition of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

Recipients

1978 B. Frank Hall
1979 Frank Allen
1980 Steve Harper
1981 Gerald Shinn
1982 William F. Adcock (posthumously)
1983 Betty Jo Welch
1984 Anne B. McCrary
1985 Charles Richard Ward
1986 John H. Haley
1987 Saul Bachner
1988 C. Sue Lamb
1989 W. Lee Johnston
1990 C. Sue Combs
1991 Grace M. Burton

THE UNCW AWARD FOR FACULTY SCHOLARSHIP

The UNCW Award for Faculty Scholarship is designed to underscore this institution's continuing commitment to scholarship and creative work. Recipients of the award shall stand out among the faculty as persons who have made, and continue to make, a significant contribution to the university and the academic community through their commitment to scholarship, research, and creativity.

Recipients

1990 Donald F. Kapraun
1991 J. Mark Galizio

THE FOUNDATION CHAIR

The Foundation of the University of North Carolina at Wilmington is a charitable, nonprofit corporation established for the sole purpose of supporting the university. Through private donations it supports a faculty chair, designated to assist the university in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the university to bring to this campus renowned scholars and performing artists. In filling the chair a special effort is made to select individuals whose contributions will benefit not only the university, but also the community at large.

THE CAMPUS

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 661-acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River and is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 118,000. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness to the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities. The spacious well-landscaped campus was first occupied by the university in 1961. The number of buildings has increased from three in 1961 to 70 today. There are several athletic fields and ample space for parking.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the dining hall and residence halls, are completely air-conditioned.

Edwin A. Alderman Hall, which houses administrative offices, is named in honor of a native Wilmingtonian who served as president of the University of North Carolina, the University of Virginia and Tulane University.

Hoggard Hall, an academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the School of Nursing, laboratories, the Computing Center, Institutional Research, Research Administration, and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the departments of fine arts and communication studies. It contains classrooms, faculty offices, art and music studios, the musical library, and electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

Will S. DeLoach Hall houses the departments of chemistry and physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and laboratories for the physical sciences.

Friday Hall, named in honor of UNC President Emeritus William C. Friday and his wife, Ida, was completed in 1974. It houses the departments of Biological Sciences and Earth Sciences and contains classrooms and laboratories.

Arnold Kimsey King Hall houses the School of Education and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory.

Isaac Bear Hall, completed in 1972, contains the Graduate School and the Department of Mathematical Sciences.

Cameron Hall, occupied in 1988, houses the Cameron School of Business Administration.

Morton Hall, named for Margaret Shannon Morton, was completed in October 1978 and houses the departments of English, history, and modern languages. The building contains classrooms, seminar rooms, and the Bryan Auditorium which seats 200.

The Social and Behavioral Sciences Building was completed in 1980. It houses the departments of Psychology, Philosophy and Religion, Political Science, and Sociology/Anthropology, as well as some offices of the campus computing center.

The Sarah Graham Kenan Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium also is equipped for use as a theatre and contains seminar rooms for the Department of Fine Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of all students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000-seat coliseum as well as an olympic-size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

The University Union is the "living room" of the university community. It houses a wide variety of services, student and administrative offices, while providing space for campus activities and meetings.

The University Center, opened in 1991, provides supplementary space to the University Union operation. In the building are housed the post office, the game room, a food facility and coffee house, the Office of Human Resources, and a large multi-purpose room which can be divided into as many as three smaller spaces. Areas of the multi-purpose room will be available to the university community and the community at large for meetings and conference proceedings, etc.

Hinton James Hall, named for a New Hanover County resident who was the first student to enroll at the University of North Carolina, houses the Financial Aid Office, Registrar Services, Undergraduate Admissions, Cashier, and the office of the dean of the College of Arts and Sciences.

The University Student Support Center opened in the summer of 1985. Centrally located adjacent to the University Union, it houses the University Bookstore.

Wagoner Dining Hall opened in 1989 providing space for food service for students and faculty. This facility, along with two other food service facilities, contains modern food service equipment which allows for many different food and catering services. It also houses a special purpose meeting and dining facility known as Madeline Suite.

Westside Hall houses Student Health Services and the Student Development Center as well as the Division of Public Service.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student residence hall named in honor of Addison Hewlett, Jr., opened in the fall of 1978. Another residence hall for 220 students, Frederick B. Graham Hall, was occupied in the fall of 1979. Schwartz Hall opened in the fall of 1985 for an additional 160 students. Suite housing for 400 students opened in the fall of 1989.

WILLIAM MADISON RANDALL LIBRARY

The William Madison Randall Library constitutes a vital instructional and research resource of the University of North Carolina at Wilmington. Named for the president emeritus of Wilmington College, the library, recently enlarged and completely renovated, provides seating for over 950 users and will accommodate a collection of 450,000 hardbound volumes in addition to various other collections of informational resources. The library now contains more than 355,000 hardbound volumes and subscribes to some 4,950 serial titles. Extensive journal backfiles are maintained in bound volumes and in microformat. A large audiovisual collection containing resources in several formats is conveniently located on the first floor, and a 73-seat auditorium is equipped for various types of audiovisual use. Rare and unique items

are housed in the Helen Hagan Rare Book Room. An online catalog and circulation system provides easy, efficient access to most of the library's collections.

The library is a partial depository for United States government publications, and the collection now consists of more than 420,000 items in hardcopy and microtext. The library is a full depository for North Carolina documents. These materials are readily available to all of the library's users. The library also houses the Curriculum Materials Center, a specialized facility designed to support the teacher education program of the School of Education.

Maintaining a schedule of more than 98 hours per week during the regular academic sessions, the library has established as its major goal the provision of an excellent program of services designed to facilitate and encourage maximum use of informational resources.

HERBERT BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Herbert Bluethenthal Memorial Wildflower Preserve is a tract of approximately 10 acres set aside on the campus by the university's Board of Trustees in response to a donation by Mrs. Herbert Bluethenthal of Wilmington. The preserve includes a wide variety of plant communities, marked trails to follow, and labeled plants to observe. It is dedicated to the preservations of the rich and varied flora of southeastern North Carolina and has been designed to provide a place of contentment and pleasure for those who enjoy and appreciate our native plants.

COMPUTING SERVICES

General academic computing support for student course-related instruction and research is provided through both terminal access to the central facility Digital Equipment VAXcluster computer systems and several microcomputer clusters located throughout the campus. The central computer facility is complemented by several workstations and a SEQUENT Balance B8 parallel-processor system running the UNIX operating system in the Department of Mathematical Sciences; a complex of microcomputers in the Cameron School of Business Administration; and specialized use microcomputers in the areas of English, social sciences, biology, nursing, physics and earth sciences.

The central VAXcluster operates under the VAX/VMS operating system and supports such general use compilers and processors as COBOL, BASIC, PASCAL, PL/1, ADA, C, LISP, FORTRAN, a spreadsheet, wordprocessor, and statistical analysis and graphics packages including SAS and SPSS. Terminal emulation software is available for microcomputer interface to the VAXcluster.

A campus-wide data network provides access to the on-campus systems, the Randall Library on-line public access catalog system, and a campus-wide information system. A variety of special equipment such as laser printers and plotters is available for general use.

The university is connected to BITNET, a communications network of institutions of higher education and research centers in the U.S.A., Canada, Europe and Asia; and Internet, a network of networks including NSFnet. Access to BITNET and Internet is available for authorized university-related activities.

The CRAY Y-MP supercomputer located at the North Carolina Supercomputer Center, Research Triangle Park, N.C., is available to faculty and graduate students for appropriate and approved projects. Access to the supercomputer is through the UNCW data network.

The intent is to provide all students maximum access to state-of-the art computing. Students must establish a user account to utilize the central VAXcluster and must abide by the rules and policies for use of the facilities including microcomputers. User guides for UNCW's

computing facilities are available in the campus bookstore. Contact Academic Computing Services for information on academic computing facilities and services.

DIVISION FOR PUBLIC SERVICE

Edward Kidder Graham, one of North Carolina's foremost educators, once observed that the boundaries of the university should be the borders of the state. As a regional university, UNCW is committed to a leadership role in helping southeastern North Carolina address regional issues and facilitate regional development.

The Division for Public Service (formerly the Office of Special Programs) is the external affairs arm of the university, with responsibilities for human resource, economic, cultural, and community development in a 16-county service area. Its activities include public service programs, coordination of regional planning, development of the campus and regional fiber optics capacity, initiation of efforts to enhance technology development, opportunities for lifelong learning, leadership training, environmental education programs, small business development, and other outreach events not located within an existing school or discipline. In addition, it assists community groups whose activities coincide with the mission of the university by scheduling the use of campus facilities for meetings, seminars, and conferences.

PUBLIC SERVICE PROGRAMS

In cooperation with other units of the university and with community organizations, the division hosts forums, conferences, and institutes that promote public awareness of issues, community leadership, and technological development as well as economic progress. Many of these activities are open to the public free of charge.

The Southeastern Network for Economic Development, a regional planning program, brings leaders together in a 16-county service area to plan regional strategies for the future.

A fiber optics classroom with full interactive capacity is located in Randall Library. Vision Carolina, an educational partnership network, links the university with Cape Fear Community College, New Hanover Regional Medical Center, New Hanover High School, and John T. Hoggard High School. This consortium offers distance learning courses and other interactive community programs for academic and non-academic credit.

PERSONAL DEVELOPMENT PROGRAMS

The Division for Public Service offers a wide variety of programs designed to provide both traditional and non-traditional students with opportunities for lifelong learning. Many of these programs are offered through the nationally recognized Continuing Education Unit (CEU) system for non-academic credit, which provides one CEU for every 10 hours of class time. Some in-service courses are designed for school teachers, with renewal credit issued by the North Carolina Department of Public Instruction. The division is receipt-supported and must charge a fee for most of its offerings.

Programs for the general public include lectures, discussion groups, seminars, and short courses. Recent topics included art, history, photography, foreign languages, home care, and health. State, national, and international travel opportunities are also offered. In the spring and fall, the division sponsors Elderhostel, an international program for older adults and draws participants from all over the United States and the world. Youth courses offer enrichment for participants aged seven to 17. These include workshops on improving academic performance as well as the Summer Science Day Camp, Coast Trek, Coast Trek International, and OceanLab programs.

PROFESSIONAL DEVELOPMENT AND LEADERSHIP PROGRAMS

The division designs specific professional training programs for local schools, businesses, and industries. University faculty and other qualified individuals provide instruction in topics such as accounting, communications, management, planning, real estate appraisal, and small business administration. Courses for school teachers and administrators are designed to provide ongoing professional improvement or to meet certification and renewal requirements. The division welcomes inquiries from individuals or organizations interested in implementing a training program for their employees. The division provides management of professional training by contracting with the business, industrial, government, and educational sectors.

FACILITIES SCHEDULING

In support of its mission as a public institution of higher learning, UNCW encourages the use of its facilities by community groups whose work is compatible with, or supplementary to, its educational purpose. Subject to academic priorities, many campus facilities may be made available for occasional meetings or activities.

A policy statement and current list of user charges for the use of indoor or outdoor space is available for inspection. These user charges are designed to cover the expense of providing the facility. Depending on special needs, particular uses may require the assessment of additional charges. The costs of any damage resulting from the use of the facility shall be borne by the organization using it.

Conference hosting coordination is available for groups whose mission coincides with that of the University of North Carolina system. The division places special emphasis on recruiting non-profit groups with a training or educational purpose. Such conferences may range in size from 20 to 800 people, may be credit or non-credit in nature, and may last for one day or for several weeks. Available services include marketing, registration, housing accommodations, and catering.

INFORMATION

Further information concerning the Division of Public Service or any if its activities may be obtained by contacting the director.

CENTER FOR MARINE SCIENCE RESEARCH

The Center for Marine Science Research at the University of North Carolina at Wilmington is dedicated to providing an environment that fosters a multidisciplinary approach to questions in basic marine research. The mission of the center is to promote basic and applied research in the fields of oceanography, coastal and wetland studies, marine biomedical and environmental physiology, and marine biotechnology and aquaculture. Faculty members conducting marine science research in the departments of Biological Sciences, Chemistry, and Earth Sciences participate in this program.

The center fosters research programs of the highest quality and thereby enhances the educational experience provided by the University of North Carolina at Wilmington for both undergraduate and graduate students in marine science.

The center's primary facilities are located on a four-acre tract near the Intracoastal Waterway at Wrightsville Beach.

Encompassing 16,000 square feet, these facilities house 14 research laboratories, various science and administrative offices, a video equipment/editing room, a fully equipped machine

tool shop, an aquatic specimens holding room, a seminar/conference room and a USDA-licensed animal facility. Additional laboratory space is available for research requiring constant flow-through seawater.

The center maintains eight research vessels ranging in size from 13 to 22 feet and specialized equipment including a Superphantom Remotely Operated Vehicle, a low temperature aquarium room, an atomic absorption spectrophotometer, and an extensive microscopy capability including transmission electron, inverted, phase-contrast, and confocal tandem scanning.

The Center for Marine Science Research serves as host for the NOAA sponsored National Undersea Research Center for the Southeastern United States. Based upon competitive proposals, NURC annually supports fisheries management, ocean-floor processes, and other research projects from the Gulf of Maine to the Gulf of Mexico.

The headquarters for the North Carolina National Estuarine Research Reserve is located at the Center for Marine Science Research through a cooperative agreement with the N.C. Division of Coastal Management. The NCNERR program manages four estuarine reserve sites as natural laboratories and coordinates research and education activities. The four sites, Zeke's Island, Rachel Carson Island, Currituck Banks, and Masonboro Island represent biologically diverse, highly productive estuarine systems composed of uplands, intertidal wetlands, and open waters.

STUDENT AFFAIRS

STUDENT AFFAIRS

The basic mission of the Division of Student Affairs is to encourage student use of personal, institutional, community, and other resources toward the goals of individual development, self-fulfillment, and a responsible citizenship. Its programs and services are directed toward assisting students in their educational and personal development.

OFFICE OF THE DEAN OF STUDENTS

The Office of the Dean of Students serves as the primary focal point for addressing student needs, issues and concerns, and serves as a resource and referral office for all faculty, staff and students. Acting in an advocacy role, the dean and assistant dean of students represents the student perspective to the university community. This office works with all segments of the university to help students develop through opportunities, advice and assistance. Within the Student Affairs Division, the Office of the Dean of Students provides consultation, new program development and assistance to the vice chancellor with special projects. Specifically, the office assists in the coordination of orientation for freshmen and transfer students, advises the Greek Life program, publishes the Student Handbook and Code of Student Life, administers the student judicial system, including violations of the Academic Honor Code; and assists the Office of Federal Compliance in processing cases of discriminatory personal conduct, including sexual harassment. Additionally, the Office of the Dean of Students coordinates programs and policy on rape prevention and assistance, substance abuse education and prevention, and implements developmental programs to meet assessed and perceived student needs. The Office of the Dean of Students also provides supervision for the ALTERNATIVES! (the Substance Abuse Education and Prevention Program) and the Office of Recreation and Intramural Programs.

ALTERNATIVES!

The ALTERNATIVES! program is responsible for providing a systematic and comprehensive set of services for substance abuse education and prevention to all segments of the university community. The center serves as a highly visible and accessible multi-media resource area containing drug education materials, as well as information on alternatives to drug use. Personal growth and self-concept enriching experiences are provided to students through alternative learning opportunities. The center serves as a clearinghouse for other campus and community resources and provides consultation, information, or referral as appropriate. Additional educational opportunities for the entire campus are offered as needed. The terms "substance" and "drug" are intended to include all psychoactive chemicals including alcohol, stimulants, depressants, opiates, and hallucinogens.

OFFICE OF RECREATION AND INTRAMURAL PROGRAMS

The Office of Recreation and Intramural Programs organizes and administers and variety of recreational service that are either structured or self-directed, and enhance the overall wellness of the campus community. The primary goal of the program is to meet the recreational needs of all populations on campus by enhancing the physical, cognitive, and social domains of the participants.

This goal is accomplished by offering a wide variety of recreational activities, conducting educational workshops, and giving professional training to the student employees. The office provides a multi-faceted program of intramural sports, fitness programs, and special events.

UNIVERSITY UNION

The University Union department exists to provide support and give direction to out-of-classroom learning. Based on the philosophy that the process of learning is not confined to the classroom, but instead is a constant and ongoing process, the mission of this department is to facilitate the educational process by providing a laboratory experience for student growth, and an arena for the development of cultural, social, and recreational awareness. This is accomplished through the administration of the University Union and University Center facilities, programs and services, providing resources to student leaders and organizations, and serving as the campus's central point of reference in regard to student activities and organizations.

STUDENT DEVELOPMENT CENTER

The Student Development Center provides confidential individual and group counseling for personal, social, career or educational concerns. Decision-making resources for careers and college majors include a computer guidance system, interest testing, and an information library. Special assistance is offered with learning strategies, study, reading and exam-taking skills. Workshops are regularly scheduled on these topics as well as on personal growth, communication skills and stress management. As part of the university substance abuse education and prevention program, the center also provides a substance abuse assessment, referral and treatment for students.

The center acts as a clearinghouse for disabled students' concerns and assists with tutoring, equipment and advocacy needs. The office also administers national testing programs such the GRE, GMAT, NTE, MAT, and LSAT.

Consulting and referral services are provided by the center's staff for university faculty, staff and student groups.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center provides career planning and placement services to students and alumni of UNCW. Assistance in developing career plans is available through individual advising, workshops and seminars. The office also provides information and counseling on careers, specific job requirements, employers, and graduate school programs. Students are encouraged to use these services early in their college career.

The office publicizes specific job openings (part-time, summer and full-time); makes individual referrals; schedules recruiting visits; maintains company recruiting literature; and provides information about public and private schools, and state and federal government opportunities.

Seniors should register with the Career Planning and Placement Center in their junior or early in their final year to establish a credentials file and to avail themselves of all placement services including resume writing, interviewing skills and job search training.

HOUSING AND RESIDENCE LIFE

The Office of Housing and Residence Life, located in Residence Life Activity Center, is responsible for the development of educational, cultural and social programs to enhance student life on campus. The goal of the Housing and Residence Life program is to create an environment conducive to academic pursuits and personal growth of resident students. Over 45 Residence Life staff are responsible for the supervision of resident students in the residence halls, on-campus apartments, and suite-style buildings. The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located

residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and laundry facilities are available. The Residence Life program offers opportunities for student employment, leadership positions through hall governance, and services of an eleven acre recreation field. Students living on campus are required to participate in the university dining hall program.

FOOD SERVICE

The UNCW Food Service operation is committed to providing quality food products served in clean and comfortable facilities. The program is available to all students, faculty, and staff seven days a week when classes are in session. Wagoner Dining Hall, built in 1989, is a modern 600-seat facility that serves unlimited seconds on every meal. Cash operations include: The Hawk's Nest, located in the University Union; Center Stage Cafe, located in the University Center; a pizza delivery program, and a convenience store located in Apartment Building M.

Information about commuter student meal plans is available at the Food Service Office in Wagoner Hall (395-3178).

STUDENT HEALTH AND WELLNESS CENTER

The Student Health and Wellness Center (SHWC) is open 8:30 a.m to 5:00 p.m., Monday through Friday. For urgent care after 5:00 p.m. during the week and all weekend, a practioner is on call to provide information and or referral.

The Student Health and Wellness Center (SHWC) provides diagnosis and treatment of general and acute medical problems. The health fee is part of the student fee and entitles students taking six or more credit hours* (living on or off campus) to health care services.

In addition to the treatment of general medical problems, the scope of services include: laboratory testing to diagnose a variety of medical problems, allergy injections, gynecologic examination and counseling, weight control and nutrition counseling, smoking cessation, crisis intervention, and referral as indicated. The Student Health and Wellness Center does not issue excuses for class absences due to illness.

Each newly admitted UNCW student is required to have the following forms on file in the SHWC prior to enrollment: 1) a completed and up-to-date Report of Medical History and Physical Examination and 2) a complete and up to date Immunization Record required by the N.C. Immunization Law (General Statues 130A-152).

FAILURE TO COMPLY WITH IMMUNIZATION LAW WILL RESULT IN ADMINISTRATIVE WITHDRAWAL FROM ALL CLASSES.

*Students taking less than six hours will be entitled to health care services upon payment of the health fee and will be required to have the above forms on record.

STUDENT HEALTH INSURANCE

The student health fee covers most medical care given at the Student Health and Wellness Center on a prepaid basis. The health fee will not cover the costs of a student who requires hospitalization or specialty care. It is strongly recommended that students who are not covered for major medical expenses (serious injuries due to accidents or hospitalization) under their family health insurance contact the SHWC or the Office of the Dean of Students for information and forms regarding the Student Group Health Insurance Plan available at a nominal cost through the university.

OFFICE OF HEALTH PROMOTION/LivWELL

The Office of Health Promotion/LivWELL is the outreach wellness program of the Student Health and Wellness Center designed to encourage and promote healthy lifestyle choices and behaviors on campus. The center provides the campus community an informal setting where a wide variety of wellness resources can be used. These include drop-in services for self-care opportunities such as blood pressure checks, cold care, weight scales, and extensive video-resource library and individual consultants on lifestyle issues and concerns. LivWELL serves as a site for student work opportunities and sponsors regular seminars and campus-wide health promotion events throughout the year.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington routinely has made public certain information about its students. Typically, UNCW releases the names of students who are selected by the various honorary societies, receive scholarships, make the Dean's List, hold offices, or are members of athletic teams. The annual commencement program publishes the names of persons who have received degrees from UNCW during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following information: the students name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The university will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing. Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration thereafter.

STUDENT CONDUCT

The filing of an application of admission shall be construed as both an evidence and pledge that the applicant accepts the standards and regulations of The University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, is obligated to obey all rules and regulations of the university as stated in the *Student Handbook and Code of Student Life,* the university catalogue and other university publications. The university reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

A policy statement was adopted by the Board of Trustees of the former consolidated University of North Carolina on October 26, 1970. It is set forth in Chapter V of the Code Provisions Governing the University of North Carolina, and is set forth in full in the *Student Handbook and Code of Student Life.*

POLICY STATEMENT ON ILLEGAL DRUGS

Students, faculty members, administrators, and other employees of the University of North Carolina at Wilmington are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or manufacture those drugs designated collectively as "controlled substances" in Article 5 of Chapter 90 of the North Carolina General Statues. A copy of this law is available in the following offices: Personnel, Dean of Students, and Academic Affairs. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. In accordance with policy adopted by the Board of Governors of the University of North Carolina and the Board of Trustees of UNCW, disciplinary proceedings against a student, faculty member, administrator, or other employee will be initiated when the alleged conduct is deemed to affect the interests of UNCW., Penalties will be imposed for violation of the policies of UNCW only in accordance with procedural safeguards applicable to disciplinary actions against students, faculty members, administrators, and other employees. The penalties that may be imposed range from written warnings with probationary status to expulsions from enrollment and discharges from employment. For more information, please refer to the *Code of Student Life, The Code of The University of North Carolina (Section 603)* and Personnel Procedure No. 610.

Every student, faculty member, administrator, and other employee of UNCW is responsible for being familiar with, and complying with, the terms of the policy on illegal drugs adopted by the Board of Governors of The University of North Carolina and the Board of Trustees of UNCW. Copies of the full text of the policy appear below as well as in the *Code of Student Life, Faculty Handbook,* and it is available in the Office of Human Resources.

POLICY ON ILLEGAL DRUGS

Introduction

The fundamental purpose of the University of North Carolina at Wilmington (UNCW) is to maintain an environment that supports and encourages the pursuit and dissemination of knowledge. That environment is damaged by illegal drug use. Therefore, all members of the academic community, students, faculty members, administrators, and other university employees, share the responsibility for protecting the environment by exemplifying high standards of professional and personal conduct.

Policy and Program

A. The illegal use, possession, sale, delivery and/or manufacture of drugs will not be tolerated and may be grounds for immediate suspension or dismissal of students, faculty members, administrators and other university employees.

B. UNCW policies and programs are intended to emphasize:
   1. The incompatibility of the use or sale of illegal drugs with the goals of the university.
   2. The legal consequences of involvement with illegal drugs.
   3. The medical implications of the use of illegal drugs.
   4. The ways in which illegal drugs jeopardize an individual's present accomplishments and future opportunities.

C. UNCW will provide a systematic substance abuse education and prevention program designed to reach all segments of the campus community. To assist in accomplishing this mission, the Center for Substance Abuse Education and Prevention is developing a well-integrated centralized program that is a focal point for campus

substance abuse education, training and prevention, and will monitor the effectiveness of programs for constituencies served. This center provides substance abuse counseling and referral services on campus and in the external community. It also provides consultative services to offices and agencies in the university environment and collaborates with the Employees Assistance Coordinator in the university's Office of Human Resources to develop counseling and referral services for faculty and staff desirous of seeking assistance off-campus. This UNCW policy is presented within the four areas of education, counseling and rehabilitation, enforcement and penalties, and assessment.

Education

A. Provide a system of accurate, current information exchange on the health risks and symptoms of drug use for students, faculty and staff.

B. Promote and support institutional activity programming that discourages substance abuse.

C. Establish collaborative relationships between community groups and agencies and the institution for education, treatment and referral.

D. Provide training programs for students, faculty, and staff to enable them to detect problems related to drug use, and to refer persons with these problems to appropriate assistance.

E. Include information about drugs for students and family members in the student orientation programs. The use of prescription and over-the-counter drugs will be addressed.

F. Support and encourage faculty in incorporating education about drugs into the curriculum where appropriate.

G. Develop a coordinated effort across campus for drug-related education, treatment and referral.

Counseling and Rehabilitation

A. UNCW provides information about drug counseling and rehabilitation services available to members of the university community. Persons who voluntarily avail themselves of university services can be assured that applicable professional standards of confidentiality will be observed. Counseling and rehabilitation services include:
   1. Provision of training for professional staff and student staff on drug abuse information, intervention and referral.
   2. Conducting education programs for students who have demonstrated abusive behavior with drugs.
   3. Conducting individual and group counseling for members of the university community with drug problems.
   4. Conducting drug abuse assessments.
   5. Coordinating referral and follow up of campus individuals and developing a referral and follow up mechanism in collaboration with the employee assistance coordinator in the Office of Human Resources.
   6. Organizing campus self-help groups.
   7. Providing consultation, information and referral for students, staff and faculty with drug problems.

8. Designing and developing referral opportunities for members of the university community who desire to seek professional assistance beyond the campus. This will be done in cooperation with the employee assistance coordinator in the Office of Human Resources.
9. Providing with peer involvement a system of intervention and referral services for students, faculty and staff.

B. In providing the above prevention strategies, it is recognized that some campus constituents may prefer professional assistance external to the campus. The campus community substance abuse education and prevention program coordinator will collaborate with the employee assistance coordinator in the development of appropriate referral mechanisms for these individuals. A listing of off campus resources for assistance and referral will be made available for those who choose that option. In the development of this program, it is desired that faculty, students, administrators and other employees be comfortable in the manner in which they are served and have a choice in the selection of appropriate assistance. Individuals served in the counseling program on campus can be assured that confidentiality will be maintained and that they will be served by professionals.

Enforcement and Penalties

A. Enforcement

In seeking to enforce established university policy, the University of North Carolina at Wilmington will:

1. Publicize all drug policies.
2. Consistently enforce drug policies.
3. Exercise appropriate disciplinary action for drug policy violations.

B. Penalties

UNCW shall take actions necessary, consistent with state and federal law and applicable university policy, to eliminate illegal drugs from the university community. University policy on illegal drugs will be publicized in the university catalogue, student and faculty handbooks, student orientation materials, letters to students and parents, residence hall meetings and faculty and employee meetings.

Students and faculty members, administrators, and other employees are responsible as citizens for knowing about the complying with the provisions of the North Carolina law that makes it a crime to possess, sell, deliver, or manufacture drugs designated collectively as "controlled substances" in Article V, Chapter 90 of the North Carolina General Statutes. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. It is not "double jeopardy" for both the civil authorities and the university to proceed against and punish a person for the same specified conduct. The university will initiate its own disciplinary proceedings against the student, faculty member, administrator, or other employee when the alleged conduct is deemed to affect the interest of the university.

Penalties will be imposed by UNCW in accordance with procedural safeguards applicable to disciplinary actions against students (see Code of Student Life, Section II), faculty members (see Policies of Academic Freedom and Tenure, UNCW, Section VII), and administrators and other employees (see Procedure No. PER 6.10 and Personnel Policies of Designated Employment Exempt from State Personnel Act - EPA Administrative Positions).[1]

The penalties to be imposed by the university may range from written warning with probationary status to expulsion from enrollment and discharge from employment; however, the following minimum penalties shall be imposed for the particular offenses described.

1. Trafficking in Illegal Drugs
   a. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell, or deliver any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, heroin, mescaline, lysergic acid diethylamide, opium, cocaine, amphetamine, methaqualine), any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
   b. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell or deliver, any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, marijuana, pentobarbitals, codeine), the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   For a second offense, any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
2. Illegal Possession of Drugs
   a. For a first offense involving the illegal possession of any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-90, the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   b. For a first offense involving the illegal possession of any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, the minimum penalty shall be probation, for a period to be determined on a case-by-case basis. A person on probation must agree to participate in a drug education and counseling program, consent to regular drug testing, and accept such other conditions and restrictions, including a program of community service as the chancellor or chancellor's designee deems appropriate. Refusal or failure to abide by the terms of probation shall result in suspension from enrollment or employment for any unexpired balance of the prescribed period of the probation.
   c. For the second or other subsequent offenses involving the illegal possession of controlled substances, progressively more severe penalties shall be imposed, including expulsion of students and discharge of faculty members, administrators, or employees.
3. Suspension Pending Final Disposition
   When a student, faculty member, administrator, or university employee has been charged by UNCW with a violation of policies concerning illegal drugs, he or she may be suspended from enrollment and/or employment before initiation or completion of regular disciplinary proceedings if, assuming the truth of the charges, the chancellor, or in the chancellor's absence, the chancellor's designee concludes that the person's continued presence within the university community

would constitute a clear or immediate danger to the health or welfare of other members of the university community; provided that, if such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held as promptly as possible thereafter.

Assessment

A. UNCW shall in its effort to continually assess the campus environment:
   1. Appraise the institutional environment as an underlying cause of drug abuse.
   2. Assess campus awareness, attitudes, and behaviors regarding the use of drugs and employ results in program development.
   3. Collect and use drug related summary information from policy and security reports to guide program development.
   4. Collect and use summary health, counseling, and client information to guide program development.
   5. Collect summary data regarding drug-related disciplinary actions and use them to guide program development.

B. Annually, the chancellor shall submit to the Board of Trustees a report of campus activities related to illegal drugs for the preceding year. The report shall including the following:
   1. A listing of major education activities conducted during the year;
   2. A report on any illegal drug related incidents, including any sanctions imposed;
   3. An assessment by the chancellor of the effectiveness of the campus program; and
   4. Any proposed changes in university policy on illegal drugs. The chancellor shall provide a copy of his report to the president.

[1] Rules of the State Personnel Commission govern the disciplinary actions that may be taken against SPA employees. Under current commission regulations discharge, rather than suspension, is the applicable penalty for SPA employees in those instances where this policy otherwise requires suspension.

STUDENT LIFE

STUDENT LIFE

UNIVERSITY UNION/UNIVERSITY CENTER

Student life is enriched at the University of North Carolina at Wilmington by a broad spectrum of activities, most of which occur in or around the University Union and University Center. The union is a 53,000 square-foot facility that houses students organization offices, conference rooms, lounges, study areas, the Hawk's Nest snack bar, rental lockers, the University Information Center, and an assortment of student services. Across the street from the Union is the 43,000 square foot University Center, with the U.S. Post Office, automatic teller machines, recreation and games facilities, lounges, Center Stage Cafe, ballroom, and space for large or small events. Both buildings have art galleries with monthly exhibits open to the public. With the belief that education is not bound to the classroom, it is the union's goal to educate, entertain and enlighten the university community, while providing a laboratory for student growth and an arena for development of cultural, social and recreational awareness.

STUDENT ACTIVITIES OFFICE

The Office of Student Activities, within the Union Department, works to expand and complement the student's education by providing support to the approximately 100 student organizations that are officially registered on campus. The Student Activities Office assists organizations with the planning, execution and evaluation of events and activities that are not only entertaining, but also educational. The office provides expertise in the areas of activity programming, contract negotiation, university policy and procedure explanations, budget preparation, publicity and promotion and organization development.

THE LEADERSHIP CENTER

The Leadership Center, within the University Union, provides a comprehensive program that promotes student and organizational development and awareness of contemporary issues through experiential leadership training, education and development activities. These activities are varied, but include workshops, retreats, publications, outdoor adventure, resources, seminars, consultations, community service, and self-assessments. Through collaboration among Student Affairs staff and academic faculty, a cohesive program encourages students how to recognize, evaluate and cultivate the potential strengths within themselves and others.

These programs improve the quality of the overall campus experience by providing opportunities to learn about and practice leadership. Ultimately, the program goal is to create a dynamic process that will continue after the student's college experience and encourage them to improve the world as active citizens in our changing democracy.

UNCW Volunteers

UNCW Volunteers, located in the Leadership Center in the University Union, helps students, faculty, and staff locate volunteer opportunities in New Hanover County. The emphasis is on learning leadership through serving.

Discover Outdoor Leadership

Discover Outdoor Leadership, located in the University Center, provides opportunities for leadership development and learning group skills as well as environmental awareness, personal growth, and a sense of community through educational outdoor adventure programming. Also, outdoor equipment is available for a minimal rental fee for personal trips.

MINORITY AFFAIRS OFFICE

The Minority Affairs Office is responsible for the implementation of programs and activities designed to enhance the overall experiences of minority students at UNCW. Through direct sponsorship of or participation in Minority Visitation Day, orientation, workshops, recruitment, a minority mentor program, the tutorial assistance program, and other activities, the office provides an added dimension to the traditional services offered to UNCW students. All students are invited to visit the office, in room 211 of the University Union, or call 919-395-3832, to discuss ways in which the office may be of service.

UNIVERSITY INFORMATION CENTER

The Information Center, located on the first floor of the University Union, provides a variety of information on campus, student and community activities, as well as campus telephone numbers. The center also sells discount movie tickets, concert tickets, and is the repository for campus lost and found items.

POSTAL SERVICES

UNCW Postal Services provides mail services to the campus community through the UNCW Station, a USPS contract station located in the University Center. Mailing and express services, FAX service, money orders, and mailing supplies are available Monday through Friday, 8:30 a.m. to 4:30 p.m.

UNCW provides each student with a post office box which serves as his or her official address. Mail boxes are required for fall and spring semesters and are issued on request for summer sessions. These boxes are used for all university correspondence (except tuition bills and grades) and should be checked regularly.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the university is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interest of the university and upholding a high standard of morals and conduct. It is responsible for the disbursement of half of the student activity fee. This money supports the Student Government Association in its objectives and campus activities. The association is a member of the North Carolina Association of Student Governments.

ASSOCIATION FOR CAMPUS ENTERTAINMENT (ACE)

The Association for Campus Entertainment coordinates the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, recreational, and cultural growth for students and the campus community. ACE is comprised of the following committees: Fine Arts/Lecture, Film-Video, Concert, Cultural Arts, Homecoming, and Special Events. The board is a member of the National Association for Campus Activities.

STUDENT ORGANIZATIONS

A variety of social, academic, and service organizations enhances student life at UNCW. National sororities and fraternities are established on the campus to recognize students for their leadership and service activities. Several departments in the university have locally and

nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. Special interest groups address a variety of areas, including political, religious, sports, and professional interests. Students are encouraged to contact the Office of Student Activities for specific information relative to a student organization.

MEDIA AND PUBLICATIONS

The Seahawk, the student newspaper, is published weekly. Its staff is composed entirely of students.

The Atlantis, a literary magazine, is published by students each spring.

The Channel Marker is a newsletter and calendar published monthly by the Student Activities Office to provide information regarding the dates and times of campus events, and to relate information to student organizations.

The Student Handbook and Code of Student Life is the primary source of information regarding university regulations and campus life.

WLOZ, the campus cable radio station, is completely run by students. The station broadcasts daily.

NATIONAL STUDENT EXCHANGE (NSE)

Students can participate in this exciting and challenging program that provides an opportunity to attend (for one year or one semester) another NSE network university. At little or no more cost to students than they are now paying, an opportunity to experience new places, ideas and cultures while attending a school that complements and supplements the course offerings at another institution, as it becomes a "satellite campus" of UNCW. Campus coordination is provided by the Student Activities Office.

ATHLETICS

The university holds membership in the National Collegiate Athletic Association, Eastern College Athletic Conference, and the Colonial Athletic Association.

Varsity intercollegiate teams are fielded for men in basketball, cross country, baseball, golf, soccer, tennis, swimming, and track and field. Variety intercollegiate teams for women are fielded in basketball, softball, tennis, volleyball, swimming, golf, cross country, and track and field.

EXPENSES

EXPENSES

The Board of Governors of the University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Tuition and Fees (In effect at time of publication)
All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to the University of North Carolina at Wilmington.

Full-Time Charges Per Semester (nine or more semester hours):

	In-State Students	Out-of-State Students
Tuition	$338.00	$2,865.00
Fees	313.00	313.00
Total	$651.00	$3,178.00

The following student activities fees are included in the full-time tuition and fee amount per semester.

	In-State	Out-of-State
Athletic Fee	$ 91.50	$ 91.50
Health Services	49.00	49.00
SGA	19.00	19.00
Student Union	50.50	50.50
Intramurals	6.00	6.00
Postal	4.00	4.00
Physical Activities	18.00	18.00
Cultural Events	5.00	5.00
Student Union Facilities	45.00	45.00
Physical Education Facilities	25.00	25.00
Subtotal	$ 313.00	$ 313.00

Certain courses have additional fees which increase the semester charges shown above. These fee courses are indicated in the course schedule for each semester.

Other fees:

Application Fee (to accompany application, nonrefundable)	$25.00
Transcript Fee	2.00
Graduation Fee	35.00

Graduate students registering for nine or more semester hours will be charged at the full-time rate as shown above. Students scheduling fewer than nine semester hours will pay tuition and fees as follows:

Semester Hours	In-State Students	Out-of-State Students*
0-Thesis only	$180.00	$ 486.00
1-2	$113.25	$ 744.25
3-5	$306.25	$1,570.25
6-8	$410.50	$2,305.50
9 or more	$651.00	$3,178.00

*See information on residency at the end of this section.

No degree, diploma, transcript of credit, or grades will be furnished a student until all financial obligations to the university, other than student loans, have been paid. All previously incurred expenses and accounts at the university must be paid in full prior to preregistration or registration for a new term.

ON-CAMPUS LIVING

The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and laundry facilities are available. Residence hall, apartment and suite students are required to participate in the university dining hall program under one of the three meal plans. The university operates a modern, air-conditioned cafeteria building. Short-order food service is available in the Hawk's Nest located in the University Union, in the Center Stage Cafe located in the University Center, specializing in pizza and subs, and the convenience store located in apartment building M. Service is on a cash basis for non-boarding students. The Housing and Food Service operations are closed during Thanksgiving, Christmas, and spring breaks.

MEAL PLAN OPTIONS

A meal plan is required for all students living on campus. The options available are listed below. The student identification card also serves as the student meal card and must be presented at every meal. Student meal cards are not transferable to another student or guest.

1992-93 SEMESTER BOARD RATES

PLAN A: 9 meals and $100.00 balance = $675.00

Any 9 meals during the 7-day week at Wagoner Dining Hall plus a $100 declining balance (for the semester) that can be used at the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN B: 14 meals per week and $100.00 balance = $745.00

Any 14 meals during the seven day week at Wagoner Dining Hall plus a $100.00 declining balance (for the semester) that can be used at the Hawk's Nest, Seahawk Station, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN C: 19 meals per week = $775.00

Allows 19 meals per week, 3 meals a day Monday through Friday, brunch and dinner on Saturday and Sunday. A $2.00 transferability will allow student to use the meal card at the Hawk's Nest or Center Stage Cafe for lunch Monday through Friday. Students may opt to add cash for declining balance that can be used in the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA or for guests at Wagoner Dining Hall.

DECLINING BALANCE PROGRAM

Students on any meal plan may put cash on their meal card by contacting the Housing and Food Service Office in Wagoner Dining Hall. A minimum of $25 may be placed in your account to be used at your discretion. Any balance left on the card at the end of the fall

semester will be carried over to the spring semester. Any money left on the card at the end of the spring semester will be forfeited.

Food services are also available to non-resident students seven days a week. Off campus students have the choice of paying cash for meals or purchasing a meal plan through the Food Service Office.

1992-93 SEMESTER ROOM AND BOARD RATES

Room rate includes: rent, utilities, local phone service, cable TV, housekeeping (except apartments) and security.

Belk, Graham, Hewlett and Schwartz	
with 9 meal plan	$1,630
with 14 meal plan	$1,700
with 19 meal plan	$1,730
Galloway	
with 9 meal plan	$1,640
with 14 meal plan	$1,710
with 19 meal plan	$1,740
Apartment	
with 9 meal plan	$1,840
with 14 meal plan	$1,910
with 19 meal plan	$1,940
Double Suite	
with 9 meal plan	$1,740
with 14 meal plan	$1,810
with 19 meal plan	$1,840
Single Suite	
with 9 meal plan	$1,820
with 14 meal plan	$1,890
with 19 meal plan	$1,920

This contract is for both fall and spring semesters. Room and board fees are per semester costs. Students entering into this agreement in the fall and spring semester are liable for the room and board charges for the spring semester. No refund of room charges will be made once a student officially moves into a residence hall/apartment/suite.

The university reserves the right to change the room and board rates without prior notice.

An advance room reservation deposit of $100.00 to be applied to the room and board account must be remitted by each applicant along with the complete application for room and board.

Those interested in obtaining information should contact:

The Office of Auxiliary Services
The University of North Carolina at Wilmington
601 S. College Road
Wilmington, North Carolina 28403-3297
Telephone (919) 395-3178

Summer Session

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

Refunds Tuition

Student who officially withdraw from the university on or before the last day of the registration (drop/add) period will receive a refund of the amount paid. Students withdrawing from the university after the drop/add period will be charged 10 percent of all semester charges for each week of classes that have been held that semester. This weekly charge begins with the first day of scheduled classes regardless of the actual date of enrollment.

No refunds will be made for withdrawals after the end of the ninth week of scheduled classes.

This refund policy applies to complete withdrawals from UNCW. Students who simply reduce their course load after the drop/add period, will receive NO refund reduction of fees whatsoever.

Refunds Financial Aid

Students who receive financial aid are not given refunds on financial aid received when charges are prorated due to withdrawal.

Refunds Housing

Housing agreements are effective for the full academic year. Agreements made subsequent to the beginning of the fall semester remain in effect until the close of the spring semester. Housing deposit and charges will not be refunded except as provided for below:

1. **New Students (incoming freshmen and transfers).** If a new student, after remitting the deposit and being accepted to on-campus housing, decides not to live on campus and gives notice of this decision in writing by May 15, 1992, in the case of application for the fall semester, or at least one month prior to the semester in the case of application for the spring semester, the deposit shall be refunded, less a $25.00 administrative charge. Requests for refund received after May 15, 1992, will be denied and the $100.00 deposit forfeited. This condition also applies to students remitting the deposit and accepted to on-campus housing after May 15, 1992.

2. **Returning Students (students currently or previously enrolled at UNCW).** The $100.00 housing deposit is non-refundable to returning students after being accepted to on-campus housing (exceptions being marriage, transferring to another institution or withdrawal from UNCW less $25.00 administrative fee). Notification must be received in the Housing Office, in writing, by May 15, 1992.

3. Room rent for either semester will not be refunded once a student officially moves into a residence hall/apartment/suite.

4. A pro-rata refund of meal plan charges will be made to students who officially withdraw from the university less a $25.00 administrative fee.

Residence Status for Tuition Payment

The basis for determining the appropriate tuition charge rests upon whether a student is a resident or a nonresident for tuition purposes. Each student must make a statement as to the length of his or her residence in North Carolina, with assessment by the institution of that statement to be conditioned by the following:

Residence. To qualify as a resident for tuition purposes, a person must become a legal resident and remain a legal resident for at least 12-months immediately prior to classification. Thus, there is a distinction between legal residence and residence for tuition purposes. Furthermore, 12-months legal residence means more than simple abode in North Carolina. In particular, it means maintaining a domicile (permanent home of indefinite duration) as

opposed to maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education. The burden of establishing facts that justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification, who must show his or her entitlement by the preponderance (the greater part) of the residentiary information.

Initiative. Being classified a resident for tuition purposes is contingent on the student's seeking such status and providing all information that the institution may require in making the determination.

Parent's Domicile. If an individual, irrespective of age, has living parent(s) or court-appointed guardian of the person, the domicile of such parent(s) or guardian is, prima facie, the domicile of the individual; but this prima facie evidence of the individual's domicile may or may not be sustained by other information. Further, nondomiciliary status of parents is not deemed prima facie evidence of the applicant child's status if the applicant has lived (though not necessarily legally resided) in North Carolina for the five years preceding enrollment or re-registration.

Effect of Marriage. Marriage alone does not prevent a person from becoming or continuing to be a resident for tuition purposes, nor does marriage in any circumstances insure that a person will become or continue to be a resident for tuition purposes. Marriage and the legal residence of one's spouse are, however, relevant information in determining residentiary intent. Furthermore, if both husband and his wife are legal residents of North Carolina and if one of them has been a legal resident longer than the other, then the longer duration may be claimed by either spouse in meeting the 12-month requirement for in-state tuition status.

Military Personnel. A North Carolinian who serves outside the state in the armed forces does not lose North Carolina domicile simply by reason of such service. And students from the military may prove retention or establishment of residence by reference, as is other cases, to residentiary acts accompanied by residentiary intent.

Grace Period. If a person (1) has been a bona fide legal resident, (2) has consequently been classified a resident for tuition purposes, and (3) has subsequently lost North Carolina legal residence while enrolled at a public institution of higher education, that person may continue to enjoy the in-state tuition rate for a grace period of 12-months measured from the date on which North Carolina legal residence was lost. If the 12-months end during an academic term for which the person is enrolled at a state institution of higher education, the grace period extends, in addition, to the end of that term. The fact of marriage to one who continues domicile outside North Carolina does not by itself cause loss of legal residence, marking the beginning of the grace period.

Minors. Minors (persons under 18 years of age) usually have the domicile of their parents, but certain special cases are recognized by the residence classification statue in determining residence for tuition purposes.

(a) If a minor's parents live apart, the minor's domicile is deemed to be North Carolina for the time period(s) that either parent, as a North Carolina legal resident, may claim and does claim the minor as a tax dependent, even if other law or judicial act assigns the minor's domicile outside North Carolina. A minor thus deemed to be a legal resident will not, upon achieving majority before enrolling at an institution of higher education, lost North Carolina legal residence if that person (1) upon becoming an adult acts, to the extent that the person's degree of actual emancipation permits, in a manner consistent with bona fide legal residence in North Carolina and (2) begins enrollment at an institution of higher education not later than the fall academic term following completion of education prerequisite to admission at such institution.

(b) If a minor has lived for five or more consecutive years with relatives (other than parents) who are domiciled in North Carolina and if the relatives have functioned during this time as if they were personal guardians, the minor will be deemed a resident for tuition purposes for an enrolled term commencing immediately after at least five years in which these circumstances have existed. If under this consideration a minor is deemed to be a resident for tuition purposes immediately prior to his or her eighteenth birthday, that person on achieving majority will be deemed a legal resident of North Carolina of at least 12-months duration. This provision acts to confer in-state tuition status even in the fact of other provisions of law to the contrary; however, a person deemed a resident of 12-months duration pursuant to this provision continues to be a legal resident of the State only so long as he or she does not abandon North Carolina domicile.

Lost but Regained Domicile. If a student ceases enrollment at or graduates from an institution of higher education while classified a resident for tuition purposes and then both abandons and reacquires North Carolina domicile within a 12-month period, that person, if he or she continues to maintain the required domicile into re-enrollment at an institution of higher education, may re-enroll at the in-state tuition rate without having to meet the usual 12-month durational requirement. However, any one person may receive the benefit of this provision only once.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal withdrawal from enrollment) must be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual enrollment. A resident status classification once assigned (and finalized pursuant to any appeal properly taken) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary division of the academic year.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial residence status classification for tuition purposes.

The initial classification of graduate students as in-state or out-of-state residents for tuition purposes is made by the Graduate School. Appeals for in-state status may be made to the campus appeals body, Out-of State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in *"A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes."* Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the undergraduate Admissions Office and in Randall Library.

FINANCIAL AID FOR GRADUATE STUDENTS

MINORITY PRESENCE GRANT PROGRAM

Under the Board of Governors general Minority Presence Grant Program, black students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework,and demonstrate financial need. Preference is given to undergraduates.

ASSISTANTSHIPS

Graduate Teaching Assistantships are available on a limited basis in the Cameron School of Business Administration; School of Education; and the College of Arts and Sciences in the departments of Biological Sciences, Chemistry, Earth Sciences, English, History and Mathematics. A limited number of Graduate Research Assistantships are available through the Center for Marine Science Research. The admission application process determines the candidates for these awards. For information contact the specific department/school or the Graduate School.

FELLOWSHIPS/SCHOLARSHIPS

The Graduate School's Awards for New Scholars. A limited number of scholarships are available to students entering any of UNCW's graduate programs for the first time. Students do not apply for these scholarships. Instead, nominations originate with the departments, which submit their recommendations to the dean of the Graduate School. Criteria include evidence of exceptional scholarship, normally strong GRE scores (or their equivalent) and an excellent undergraduate GPA.

The Champion McDowell Davis Scholarship is available to students from any major. This scholarship covers tuition and fees, books and other selected expenses and is awarded to students based on academic achievement, leadership potential and demonstrated financial need. A selection committee is charged with selecting the recipients each year. Application can be made at the Financial Aid Office.

The Sylvia and B. D. Schwartz Graduate Fellowship Award may be awarded to any graduate student enrolled at the University of North Carolina at Wilmington. Recipients shall be determined by the Graduate School and will receive an amount equal to in-state tuition and fees.

The J. W. Jackson Scholarship has a $2,000 per year value and is restricted to a junior-senior or graduate student enrolled in the Cameron School of Business Administration. The scholarship is designed for students with high academic potential. Applications can be made in the Financial Aid Office. Students awarded this scholarship are eligible to reapply.

LOANS/COLLEGE WORK STUDY PROGRAM

The Mellie Hill Barlow Loan Fund is set up to provide no-interest loans to students at UNCW who are orphans or are from single-parent homes. The loans carry a legal obligation to be repaid. Applications can be made at the Financial Aid Office.

Students who are enrolled at least half time in the Graduate School at UNCW may apply for the following types of financial aid:

Stafford Loan Program provides loans to graduate students who qualify on the basis of financial need. Applicants complete the regular financial aid application process in addition to completing a loan application. Students may borrow up to $7,500 per academic year for five years. Repayment begins six months after the student ceases to be enrolled at least half time. The interest rate is calculated at eight percent for the first four years of repayment, but escalates to 10 percent during the fifth year of repayment. Borrowers may be given up to 10 years to repay their loans.

Supplemental loans for students provide funds to cover their college expenses in addition to those borrowed under the Guaranteed Loan program. These loans are available to independent graduate students who meet federal eligibility requirements, and attend school at least half time. In determining eligibility, the credit worthiness of the borrower is of primary importance. Students may borrow up to $4,000 per year for a cumulative total of $20,000.

However, no student may borrow more than his cost of education minus other aid received. Repayment begins immediately with the first installment due 60 days after receipt of your money. A variable interest rate will be calculated annually based on a federal formula, but cannot exceed 12 percent.

Parent Loans for graduate students may be secured by the parent to assist in covering educational costs. Parents may borrow up to $4,000 per year for a combined total of $20,000. However, a parent may not borrow any amount that would make the total amount of financial assistance that both the student and the parent receive greater than the cost of attendance at UNC Wilmington. In determining eligibility, credit worthiness of the borrower is of primary importance. A variable interest rate will be calculated annually based on a federal formula. The new rate will begin each year, but cannot exceed 12 percent.

The College Work-Study Program, which is federally funded, provides part-time jobs on the UNCW campus for students who have financial need and who must earn part of their educational expenses. To be eligible for work-study, a student must be enrolled for at least half time and must be a citizen or permanent resident of the United States. The application and financial statement must demonstrate financial need.

For additional information, contact the Financial Aid Office.

GradEXCEL Educational Loan for Graduate Students offer graduate and professional students a signature loan based on projected future earnings, rather than on current income and creditworthiness. Annual loan amounts range from $2,000 to $7,500 (up to $12,000 for Graduate Law students) when a student borrows on his/her own, or up to $20,000 annually with a creditworthy co-borrower. Borrowers may choose between two interest rate options, and have three repayment options: (1) deferred principal and interest payments while enrolled; (2) deferred principal payments while enrolled; (3) fixed monthly payments of principal and interest. Repayment periods range from four to 20 years, depending on amount borrowed.

For more information or a GradEXCEL application, please call Nellie Mae at 1-800-634-9308 or (617) 849-3447, or write to: Nellie Mae, GradEXCEL Department, 50 Braintree Hill Park, Suite 300, Braintree, MA 02184.

Satisfactory Progress

To be eligible to receive or to remain eligible to receive financial aid funds, graduates must maintain "satisfactory progress" in their course of study. A determination of satisfactory progress incorporates two standards applied at the end of the regular academic year.

Standard one requires that full-time students must demonstrate successful completion of the following number of hours as determined by graduation requirements:

Master in Business. For full-time students 14 hours each academic year (approximately one-fourth of the total hours required for graduation). For half-time students seven hours each academic year (approximately one-eighth of the total hours required for graduation).

Master in Education and Masters in Arts or Sciences. For full-time students 12 hours each academic year (approximately one-third of the total hours required for graduation). For half-time students six hours each academic year (approximately one-sixth of the total hours required for graduation).

In the case of a student who changes his or her enrollment status from fall to spring semester, the hours which must be completed will be averaged.

Standard two involves a qualitative measurement that determines that the graduate student needs to be making satisfactory progress. Any student receiving grades of C on any three

courses or on 12 semester hours (whichever comes first) or any grade of F is not considered to be making satisfactory progress and is not eligible for continued financial aid.

The standards for progress outlined for financial aid recipients are not applicable for purposes of continued enrollment, since such determinations will be made by the university in accordance with institutional policy. Aid students who fail to meet the above standards will be dropped from financial aid after the spring semester and will not be reinstated until the standards are met. Students terminated from aid because of failure to meet satisfactory progress standards may reapply when mitigating circumstances exist by using the appeal process outlined in the Financial Aid Booklet. All such appeals relating to satisfactory progress must be made within 30 days following the completion of the spring semester.

Time Limitation Policy

In determining eligibility for financial aid, the graduate student is allowed up to one additional year beyond the determined full-time tract to complete the graduate degree program.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the university. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved. For further assistance, contact the veterans coordinator in the Student Financial Aid Office.

ACADEMIC REGULATIONS AND PROCEDURES

ACADEMIC REGULATIONS AND PROCEDURES

REGISTRATION

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in graduate programs are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

PREREGISTRATION

Preregistration for students currently enrolled is held each semester. Students who complete preregistration and who pay fees by the designated date are registered except in the event that they are declared academically ineligible at the end of the preceding semester. Graduate students receive notification from their advisors, through their campus post office box, regarding an appointment time to discuss their schedule. They will be given a permit to preregister at the time of their appointments.

COURSE CREDIT

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to the Graduate School, except as described in the paragraphs below.

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or school dean, as appropriate, and (2) present it to the dean of the Graduate School for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Graduate courses taken at this institution as a non-degree student before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit. A maximum of 10 hours may be applied toward the degree. Degree-related extension courses offered by this institution may be applied toward a graduate degree as follows: (a) with the approval of the appropriate dean, a non-degree student may apply for a maximum of six hours of relevant courses as transfer credits at the time of admission to a program, (b) with the prior approval of the appropriate dean, a student who is already admitted to a degree program may apply up to six hours of relevant courses toward the residence requirement. Requests for application of an additional six hours toward the residence requirement may be submitted to the dean of the Graduate School.

Transfer of Course Credit

A maximum of six semester hours of graduate credit may be transferred from another accredited institution in partial fulfillment of the total hours required for the master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition the Graduate School for transfer of more than six semester

hours. Each such petition must be accompanied by a statement of endorsement from the appropriate dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the dean of the Graduate School only upon recommendation of the dean of the school or college in which the student is enrolled. The Graduate School must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree.

A graduate student who wishes to take one or more courses elsewhere for graduate degree credit must obtain prior approval from the appropriate dean and the dean of the Graduate School.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate program and do not carry graduate course credit.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing, but all such courses are recorded as part of the official record.

ADDING, DROPPING

Courses may be added or dropped only in the official drop/add period, which is noted in the Calendar of Events. To add or drop a course, the student must present to the Graduate School a drop/add card signed by his or her graduate coordinator/advisor and the course instructor for approval.

A student may not use a Schedule Revision Card to drop his or her only course, but must officially withdraw from the university.

WITHDRAWAL POLICY FOR GRADUATE STUDENTS

A student is allowed to withdraw from the university or from individual courses through the first week of the semester without having a grade entered on the academic record. Inclusive of the second through week twelve of the semester, any student who withdraws will receive a grade of W. A grade of W will not affect the student's grade point average. Beginning with the thirteenth week of the semester, a grade of F will be assigned for each course withdrawal.

To withdraw from an individual class or classes, the student must report to the Graduate School before or on the last day for withdrawal as indicated in the university calendar of events. To withdraw from all classes, the student must process an official withdrawal form through the Graduate School. If the student is unable to appear in person to withdraw, written notice must be sent to the Graduate School.

Should extenuating circumstances warrant, the grade of F assigned for course withdrawal may be changed to a W. This determination will be made by the dean of the Graduate School. It is the student's responsibility to initiate the appeal. The decision of the dean is final and must be rendered prior to the end of the semester in which the withdrawal occurred.

GRADUATE GRADING

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

A (4 qp) - excellent
B (3 qp) - completely satisfactory
C (2 qp) - minimally acceptable
F (0 qp) - failure
S - satisfactory progress (thesis)
I - work incomplete
W - withdraw passing

GRADES OF INCOMPLETE

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The instructor may set the maximum allowable period for completion of the course work, but in no case will the extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the dean of the Graduate School. If, within 12 months, a change of grade has not been submitted by the instructor, the incomplete automatically becomes a F.

RETENTION POLICY

Three grades of C or one grade of F results in dismissal from the graduate program. Further, if a student falls below a 3.0 gpa at any time, he or she goes on academic probation and has three subsequent courses to bring the gpa up to at least 3.0. In addition, a student must have at least 3.0 gpa in order to begin any program-specific comprehensive examination and/or thesis work.

MINIMUM COMPETENCY REQUIREMENT

Individual graduate programs may designate certain courses as requiring minimum competence of B. Any student receiving a C in such a course must repeat it and receive a grade of B or better. Such courses may be repeated only once, and failure to receive a B or better grade in the repetition will result in dismissal from the graduate program. Both the initial C and subsequent grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

POLICY ON REPEATING COURSES

A student who has received a grade of C may repeat that course once. Both the first and second grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

RETENTION BY APPEAL

Students who have been dismissed from the graduate program and readmitted by special action of the graduate dean shall have their subsequent retention policy determined individually by the dean.

AUDITING POLICY FOR GRADUATE STUDENTS

Auditing is considered the privilege to attend a class if space is available. The decision to allow auditing within the professional schools and graduate degree programs is the prerogative of the deans and the department chairs. Within those programs granting the auditing privilege, students must have the approval of the instructor and the appropriate department chair or dean prior to registering or adding the course(s) to their schedules. The student should consult the registrar for auditing registration dates. The audit will be considered part of the student course load. Tuition, fees, and enrollment procedures are the same as for credit enrollment.

Attendance, preparation, and participation in classroom discussions and activities are at the discretion of the instructor and the department. No credit is given, no examinations are required, and no grades are reported for audited courses. A formal record of the audit may be entered on the student's transcript at the discretion of the instructor. The procedure for dropping an audit course is the same as for credit enrollments. A course audit may not be changed to graduate credit.

GRADUATION

A student must have no less than a 3.0 gpa on all graduate-level courses. Grades of A,B,C,F,S, and W are permanent grades and can be changed only the dean of the Graduate School in cases of arithmetical or clerical error or as a result of protest of grade.

PROCEDURE FOR PROTEST OF GRADE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeals must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the dean of the college or school within which the protested grade was awarded. By conferring with the student and the instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will transmit the written appeal to the dean of the Graduate School. The dean of the Graduate School will convene the Grade Appeals Committee.

The Grade Appeals Committee will consist of the graduate dean as chairman and five members of the graduate faculty appointed by the graduate dean. If the committee affirms the instructor's decision, the graduate dean will notify in writing the faculty member, the student, and the appropriate dean. If the committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be appealed further.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examination at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of this desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period. Rescheduling of a final examination for an entire class requires the approval of the appropriate dean.

TRANSCRIPTS

Transcripts are issued by the Office of the Registrar to students at the cost of $2.00 each. All requests for transcripts must be in writing and must include the student's signature.

INDEBTEDNESS

All indebtedness to the university must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar in writing of any change in name or permanent mailing address.

SAFETY AND HEALTH PROGRAM

UNCW's safety program complies with the State Occupational Safety and Health Act of 1973.

MASTER'S DEGREE EXAMINATION

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or school. Neither examination may be taken until the course work is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the dean of the school or college in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination.

A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor. A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the dean of the Graduate School. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

REGISTRATION FOR THESIS

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on

a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only courses for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of university faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of university faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded.

FOREIGN LANGUAGE REQUIREMENT

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in a given program must be one of the options approved for that program by the Graduate School.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such a requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her dean will be asked to certify on the application of candidacy that such a requirement has been met.

APPLICATION FOR ADMISSION TO CANDIDACY AND FOR THE DEGREE

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree, but fails to meet a deadline for a particular graduation, he or she must contact the Graduate School to specify a new graduation date.

DEGREE TIME LIMITS

A graduate student has five calendar years to complete his or her degree program. The five-year period begins with the student's first term of work after formal admission to a degree-granting program. Work completed as a non-degree student does not initiate the five-year period for completing a degree program. Courses taken more than five calendar years prior to the admission of a student into a degree program at UNCW normally are not accepted for credit toward fulfilling the requirements of the student's degree program. In some cases, however, with approval of the student's advisory committee and department/unit chair, a student may petition the Graduate School to accept for credit work that is more than five years old.

When extenuating circumstances warrant, an extension of the time limit for completing a graduate program may be granted to a student upon his or her petition to the dean of the Graduate School. Such petitions must include an explanation and the endorsement of the student's advisory committee and academic unit's chair or dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of each individual.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. Complete details may be found in the current *Student Handbook and Code of Student Life and in the Faculty Handbook*.

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. All faculty members are responsible for setting policy concerning the role of attendance in determining grades for their classes. It is the responsibility of the students to learn and comply with the policies set for each class in which they are registered.

THE GRADUATE SCHOOL

THE GRADUATE SCHOOL

Eric G. Bolen, Dean

The Graduate School at the University of North Carolina at Wilmington administers programs of study leading to the Master of Business Administration degree, the Master of Education degree, the Master of Arts in Teaching degree, the Master of Science degree in biology, chemistry, geology, mathematics, and marine biology, and the Master of Arts degree in English, history, and mathematics.

Each of these programs provides capable students with an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development. Fuller descriptions of these programs appear separately in the following pages.

ADMISSIONS

GENERAL ADMISSIONS REQUIREMENTS

For admission to a graduate degree program at the University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. For information on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT) contact the University Student Development Center. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking, or have taken, graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNCW. **Applications for admission to most graduate degree programs should be filed in the Graduate School at least sixty (60) days in advance of the term in which admission is sought; some programs require earlier deadlines.** If admitted applicants do not register for the term specified in this application, their admission will be subject to review at a later date. A student who leaves the university and who does not register for at least one semester must apply for readmission to the Graduate School. Each student admitted to a graduate degree program must have a completed medical report form on file at UNCW before initial registration may be effective. In addition, an immunization record for each newly admitted UNCW graduate student, regardless of status, is required by law to be on file at UNCW prior to enrollment.

Graduate students are subject to the same university policies and regulations as undergraduates unless otherwise stated. Specific admission requirements are listed under each master's degree program.

NON-DEGREE STUDENTS (Special Graduate Status)

In some cases, students who are not seeking a graduate degree may be permitted to take graduate courses. Such permission to take graduate courses does not constitute admission to a graduate degree program. Non-degree graduate students are not candidates for degrees. Enrollment must be maintained in at least one graduate course each semester. The undergraduate grade-point averages for non-degree graduate students are expected to meet the same standards that apply to the admission of graduate students in full standing. Students that are later accepted to a degree program may, with approval, have up to 10 hours

applied toward the degree. Normally, non-degree status is not available and does not apply to students interested in taking courses in the Cameron School of Business Administration. Admission requirements may vary for each academic unit, and students seeking non-degree status therefore must determine and meet these conditions prior to completing their application. Any individual having an interest in applying for admission as a non-degree graduate student should contact the Graduate School.

RE-ENROLLING

A student who leaves the university and who does not register for at least one semester (fall or spring, not applicable for summer) must apply for readmission to the Graduate School. The re-enrollment forms are available in the Graduate School. No fee is required.

ADMISSIONS-SENIOR CITIZENS

Residents of North Carolina age 65 or older who meet applicable admission requirements may enroll tuition free on a space available basis. Students who wish to enroll under the provisions of this law should document their senior citizen status at the time of registration. The availability of class space cannot be determined until after registration.

INTERNATIONAL STUDENTS (see Special Academic Programs section)

COOPERATIVE PH.D. PROGRAM IN MARINE SCIENCE (see Special Academic Programs section)

NONDISCRIMINATION POLICY

UNCW is dedicated to equality of opportunity within its community. Accordingly, UNCW does not practice nor condone discrimination in any form against students, employees, or applicants on the grounds of race, color, national origin, religion, sex, age, handicap or veteran status. UNCW commits itself to positive action to secure equal opportunity regardless of those characteristics. For additional information, contact the compliance officer.

Any student who supplies false or misleading information or who conceals pertinent facts in order to enroll in the University of North Carolina at Wilmington is subject to immediate dismissal from the university.

Application forms and other admissions information may be obtained by contacting the Graduate School, University of North Carolina at Wilmington, 601 South College Road, Wilmington, North Carolina 28403-3297, (919) 395-3135 phone, (919) 395-3787 fax.

DEPARTMENT AND PREREQUISITE ABBREVIATIONS

The following standard list of abbreviations will be used for stating department and prerequisite abbreviations.

Accountancy	ACG
Anthropology	ANT
Biology	BIO
Biology Lab	BIOL
Business Law	BLA
Chemistry	CHM
Chemistry Lab	CHML
Computer Science	CSC
Economics	ECN
Education	EDN
English	ENG
Finance	FIN
Geology	GLY
History	HST
Management	MGT
Marketing	MKT
Mathematics	MAT
Statistics	STT
Production and Decision Sciences	PDS

THE COLLEGE OF ARTS AND SCIENCES

Graduate programs in the College of Arts and Sciences lead to either a Master of Arts or a Master of Science degree. In addition, specialized curricula are offered jointly by the College of Arts and Sciences and the School of Education for professional educators leading to the Master of Arts in Teaching degree. All programs in the college are designed to enhance the intellectual ability, maturity, and independence of the master's student, thereby preparing students for careers in business, industry, government, teaching, or for further study at the doctoral level.

MASTER OF SCIENCE IN BIOLOGY AND MARINE BIOLOGY

The Department of Biological Sciences offers programs of study leading to a Master of Science degree in biology and a Master of Science degree in marine biology. The programs are designed (1) to prepare students for further graduate work leading to the Ph.D.; (2) to provide professional biologists with advanced research and education opportunities; (3) to prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; or (4) to provide a broad-based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in biology or marine biology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced biology)
4. Three recommendations by individuals in professionally relevant fields

Scores on the verbal, quantitative, and advanced biology portions of the Graduate Record Examination (GRE) in the 50th percentile or above are desired. A bachelors degree in a field of biology from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, as well as an average of "B" or better in the undergraduate major. Undergraduate grades, GRE scores, and recommendations are used in concert to determine acceptability.

Degree Requirements

1. The program requires 30 semester hours of graduate study.

2. Six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better.

3. A minimum of 24 semester hours of graduate study must be completed in residence.

4. No more than nine hours of graduate level courses offered by other science departments at UNCW may be applied toward the degree.

5. No more than 10 credit hours from those courses crosslisted as 400/500 may be applied toward the degree. Undergraduate courses taken in fulfilling deficiencies will not count toward the 30-hour requirement.

6. All deficiencies must be remedied prior to graduation.

7. The student must successfully complete a written qualifying examination based on prior coursework and an oral defense of the thesis. The qualifying examination normally will be taken during the student's final semester in residence.

8. Each student will present a thesis, based on original research, acceptable to the committee, prior to graduation.

9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study.

Requirements for Master of Science Degrees

Core courses: required of all students seeking a Master of Science degree in biology or marine biology.

BIO 501 Introduction to Scientific Research and Presentation (1)
BIO 593 Colloquium (1)
BIO 595 Seminar (1)
BIO 599 Thesis (3-6)

Master of Science in Biology

In addition to the core courses listed above, each student, in consultation with his/her thesis advisory committee, shall devise a program of study that meets the needs of the student and complements the thesis research.

Master of Science in Marine Biology

Student may elect to complete the course requirements of one of three tracks of study: (a) marine biology, (b) biological oceanography, or (c) coastal biology. Within each track, in addition to the core courses listed above, students shall complete the following courses and, in consultation with their thesis advisory committees, select electives to complete a program of study that meets individual needs and interests.

(a). Marine biology track

A minimum of six hours from the following:

BIO 560 Estuarine Biology (3)
BIO 562 Coastal Ecosystems (3)
BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)

A minimum of 15 hours of elective credit; at least 12 hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

(b). Biological oceanography track

BIO 564 Biological Oceanography (3)
BIO 569 Advanced Oceanography (3)
BIO 596 Seminar at Sea (1)

A minimum of 14 hours of elective credit; at least nine hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

(c). Coastal biology track
BIO 560 Estuarine Biology (3)
BIO 562 Coastal Ecosystems (3)
BIO 592 Seminar at the Coast (1)

A minimum of 14 hours of elective credit; at least nine hours must be in biology courses, of which no more than three hours may be BIO 591 (Directed Independent Study).

GRADUATE PROGRAM IN BIOLOGICAL SCIENCES

Course Descriptions

BIO 501. Introduction to Scientific Research and Presentation (1) Scientific manuscript preparation and communication techniques: manuscript format, graphics, design of experiments, library use, and writing techniques. One lecture and one laboratory hour each week.

BIO 512. (410) Electron Microscopy and Cell Ultrastructure (3) Prerequisite: Course in cell physiology or permission of instructor. A discussion of the general and specialized techniques of transmission and scanning electron microscopy and their application to the elucidation of the structure and function of cell organelles in plants and animals.

BIOL 512. (BIOL 410) Electron Microscopy Laboratory (1) Corequisite: BIO 512 and permission of instructor. Techniques for fixing, embedding and thin sectioning of tissue are demonstrated. Students prepare a material of choice for observation and analysis and examine the prepared material with the electron microscope. Three laboratory hours each week.

BIO 515. Membrane Physiology (4) Prerequisite: Course in animal or cellular physiology or permission of instructor. Introduction to the principles of diffusion, osmosis, active transport, and membrane biophysics, with emphasis on cellular and whole animal ionic and osmotic regulation in marine invertebrates and vertebrates. The laboratory gives experience in ion measurements, handling radioisotopes, and flux studies. Three lecture and three laboratory hours each week.

BIO 519. Advanced Topics in Cellular and Molecular Biology (2-4) Prerequisite: Upper-level undergraduate or graduate course work in cellular and molecular biology or permission of the instructor. Selected topics in cellular and molecular biology. Includes: the cytoskeleton and its components, dynamics of membrane structure and function, metabolism of nitrogenous compounds, control of gene expression, and biology of extrachromosomal DNA. Lecture and laboratory hours each week.

BIO 520. (415) Vertebrate Histology (4) Prerequisite: Courses in introductory cell biology and general zoology. An introduction to the cytology and morphology of vertebrate cells and tissues, including examination of the four major histological tissues: epithelium, connective tissue, muscle, and nerve. Other topics include the techniques and instrumentation of light microscopy and selected methods of sectioning, fixation, and

staining of tissues. Student project required. Three lecture and three laboratory hours each week.

BIO 524. (425) Microbiology (4) Prerequisite: Permission of instructor. Study of non-pathogenic and pathogenic microorganisms with emphasis on the biology of viruses and bacteria. Laboratory sessions include the techniques required to identify, culture, and stain selected microorganisms. Three lecture and three laboratory hours each week.

BIO 525. Marine Microbiology (4) Prerequisite: Course in microbiology or permission of instructor. Study of structure and function of microbes and their nutrition, metabolism adaptation and genetics, as related to the marine environment. The laboratory includes techniques of studying microbes and their ecology, and the systematics of important microorganisms. Three lecture and three laboratory hours each week.

BIO 526. Advanced Topics in Microbiology (2-4) Prerequisite: Course in microbiology and organic chemistry or permission of instructor. Study of the taxonomy, morphology, metabolism, genetics and ecology of microorganisms. Emphasis is placed on the current microbiological literature. Lecture and laboratory hours each week.

BIO 529. (430) (ANT 430) Evolutionary Biology (3) Prerequisite: Course in genetics. Advanced survey of organizational principles of the genetic apparatus of prokaryotes and eukaryotes. Emphasis is on critical evaluation of current concepts and models of evolutionary dynamics using relevant illustrative examples from the literature.

BIO 530. Invertebrate Evolution (3) Prerequisite: Course in invertebrate biology or permission of instructor. Critical analysis of current theories on the origin of the invertebrates and on origins of invertebrate phyla. The course includes a review of the historical development of evolutionary thought concerning invertebrate phylogeny, both from a neontological and paleontological viewpoint. Relevant data from modern studies in embryology, larval development, comparative morphology, functional morphology, and serology are stressed. Each student is required to prepare a summary paper on the status of knowledge for a selected invertebrate group.

BIO 531. Population Genetics (3) Prerequisite: Course in genetics. Basic principles of the dynamics of genes within populations. Topics include fitness, polymorphism, genetic equilibrium, and the effects of non-random mating and selection.

BIO 534. (466) Advanced Ecology (4) Prerequisite: Course in general ecology. Advanced topics in ecosystem energetics, population dynamics, and community ecology. Emphasis on team teaching and student research. Two lecture and four laboratory hours each week.

BIO 535. (435) Molecular Genetics (3) Prerequisite: A course in genetics, biochemistry, or cell physiology. An overview of current understanding of the nature, function, and control of genes. Topics include the nature of genetic information; the sequence organization and packaging of the eucaryotic genome; DNA, RNA, and protein systhesis;

recombinant DNA technology; RNA processing; transposable genetic elements; and antibody diversity synthesis and function.

BIO 536. (436) Recombinant DNA Techniques (2) Prerequisite: Course in genetics, physiology, or biochemistry. Basic principles and techniques of gene cloning using all three major types of cloning vectors: lambda phage, plasmids, and the single stranded DNA phage M13. Provides hands-on experience in recombinant DNA methodology. One lecture and four laboratory hours each week.

BIO 537. (457) Ichthyology (4) Prerequisite: Course in general zoology. The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

BIO 538. Cytogenetic Methodology (2) Prerequisite: Course in genetics. Laboratory course introducing techniques for studying and analyzing the chromosomes of a variety of organisms including plants and animals. Four laboratory hours each week.

BIO 539. Advanced Topics in Population Biology (2-4) Prerequisite: Courses in genetics and ecology or permission of instructor. Study of the ecology, genetics, and evolution of populations. Topics include dynamics of population structure, growth, and regulation; natural selection and the maintenance of genetic variation within populations; differentiation of populations and speciation; evolution of population strategies. Lecture hours each week

BIO 540. (465) Biochemistry (3) Prerequisite: Course in organic chemistry. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms.

BIO 541. (420) Pathophysiology (3) Prerequisite: Permission of the instructor. Survey of the physiologic and biologic manifestations of disease, emphasizing how alterations in structure and/or function disrupt the human body as a whole. Overall mechanisms of disease are introduced and described to allow coverage of specific diseases within each system.

BIO 544. (440) Developmental Biology (4) Prerequisite: Course in genetics. Concepts of mechanism and control in development. Topics include cell lineage determination, differential gene activity, cell recognition phenomena, hormones, and environmental control of development. Plant and animal systems studied in modern research literature are discussed. Three lecture and three laboratory hours each week.

BIO 545. (445) Marine Physiology (4) Prerequisite: Course in cellular or animal physiology. Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion, and movement. Three lecture and three laboratory hours each week.

BIO 549. Advanced Topics in Animal Physiology (2-4) Prerequisite: Permission of instructor. Study of topics in animal physiology for which significant new understanding

has been obtained. Consideration is given to those emergent techniques that have permitted the application of scientific methodology to particular physiological problems. Lecture and laboratory hours each week.

BIO 550. Vertebrate Systematics (4) Prerequisites: Courses in two of the following: ichthyology, herpetology, ornithology, mammalogy. A study of the processes of speciation in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures are discussed. Three lecture and three laboratory hours each week.

BIO 551. Advanced Vertebrate Biology (2) Prerequisite: Permission of instructor. Individualized instruction in the identification, classification, and ecology of the terrestrial vertebrates of the coastal zone with emphasis on field methodologies. Designed to fill gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

BIO 552. (462) Deep Sea Biology (3) The biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea.

BIO 553. Natural History of Intertidal Organisms (3) Prerequisite: Course in invertebrate zoology or permission of instructor. Study of characteristics of invertebrates inhabiting the intertidal zone. Topics include physical and biological features defining zonation, recruitment, competition, and other factors regulating intertidal populations. Two lecture hours and field work each week.

BIO 554. (452) Mammalogy (4) Prerequisite: Course in general zoology. A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions include collection, identification, and preparation of specimens and observations of mammals in the field. Three lectures and three laboratory hours each week.

BIO 556. (456) Ornithology (4) Prerequisite: Course in general zoology. An introduction to the life of birds. Emphasis is on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

BIO 557. (454) Herpetology (4) Prerequisite: Course in general zoology. A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Three lecture and three laboratory hours each week.

BIO 558. Biology of Recreational and Commercial Fishes (3) Prerequisite: Course in ichthyology or permission of the instructor. A study of the major groups of fishes and invertebrates utilized in fisheries, with emphasis on the biology, economic importance, and management of selected groups. Topics focus on contemporary management strategies and needs. Two lecture and three laboratory periods each week.

BIO 559. (481) Marine Invertebrate Zoology (4) Prerequisite: Course in general zoology. A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

BIO 560. Estuarine Biology (4) Prerequisite: Course in general ecology or permission of instructor. An examination of the unique physical, chemical, and biological interactions within estuaries, emphasizing nutrient cycles and energy flows. Three lecture and three laboratory hours each week.

BIO 561. Barrier Island Ecology (3) Prerequisite: Course in general ecology or permission of instructor. Survey of vegetation and physiography of barrier islands. Two lecture and three laboratory hours each week.

BIO 562. Coastal Ecosystems (3) Prerequisite: Course in general ecology or permission of instructor. Ecology and current regulations and management of coastal plain communities. Two lecture and four laboratory hours each week.

BIO 563. Physical Oceanography (4) Prerequisite: Permission of instructor. Dynamics and physics of the ocean with emphasis on the physical properties of sea water, flow dynamics, and circulation. The laboratory emphasizes instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

BIO 564. Biological Oceanography (3) Prerequisite: Permission of instructor. Discussion of factors that control the distribution of marine organisms. Topics include characteristics of marine biomes; comparisons of tropical, temperate, and polar seas; biology of the continental shelf and Gulf Stream; comparisons of pelagic and benthic communities; and physiological adaptations.

BIO 565. (458) Fisheries Biology (4) Prerequisite: Courses in ichthyology, and statistics, and permission of instructor. Advanced studies in the biology of fishes. Topics include age, growth, foods, parasites, population dynamics, reproduction, and economic pressure. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

BIO 566. Behavioral Ecology of Reef Fishes (3) Prerequisite: Course in ichthyology or permission of instructor. An ecological and ethological approach to the study of reef fishes, including theories and problems dealing with ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

BIO 567. (460) Limnology (4) Prerequisite: Course in inorganic chemistry or permission of instructor. An examination of the physical, chemical, and biological characteristics of freshwater systems, particularly lakes, with an emphasis on the interrelationship of these characteristics. Three lecture and three laboratory hours each week.

BIO 569. Advanced Oceanography (3) Prerequisite: Course in descriptive oceanography. Discussion of such processes as nutrient cycling, energy transmission, circulation,

primary production, grazing, and other factors which regulate life in the sea. Two lecture and three laboratory hours each week.

BIO 570. (468) Planktonology (4) Prerequisite: Course in invertebrate zoology or consent of instructor. Classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

BIO 571. (446) Phycology (4) Prerequisite: Course in general botany. A survey of algal groups including benthic planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

BIO 572. (472) Marine Phycology (4) Prerequisite: Course in general botany. An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

BIO 573. (477) Mycology (4) Prerequisite: Course in general botany. Taxonomy, morphology, and ecology of fungi with emphasis on fungal evolution and the importance of fungi to humans. Fungi as agents causing both plant and animal diseases also are discussed. Three lecture and three laboratory hours each week.

BIO 574. (475) Plant Taxonomy (4) Prerequisite: Course in general botany. An introduction to identification, classification, and nomenclature of vascular plants with emphasis on the flora of southeastern North Carolina. Two lecture and four laboratory hours each week.

BIO 575. Taxonomy of Aquatic and Wetland Plants (3) Prerequisite: Course in plant taxonomy or permission of instructor. Discussion, collection, and identification of vascular plants found in the aquatic and wetland habitats of coastal North Carolina. Extensive field work and individualized instruction in collection and identification techniques. Two lecture and three laboratory hours each week.

BIO 576. (474) Comparative Morphology of Vascular Plants (4) Prerequisite: Course in general botany. An in-depth study of the major groups of vascular plants with emphasis on structure, life histories, development, and phylogeny. Three lecture and three laboratory hours each week.

BIO 577. Marine and Estuarine Mycology (3) Prerequisite: Course in mycology or permission of instructor. Survey of the mycoflora of oceanic and estuarine waters with emphasis on collecting and culturing techniques. Taxonomy and ecology of important fungal groups are discussed. Two lecture and three laboratory hours each week.

BIO 579. Advanced Topics in Organismic Biology (2-4) Prerequisite: Permission of instructor. Advanced study of the ecology, natural history, behavior, or systematics of selected groups of organisms. Lecture and laboratory hours each week.

BIO 580. (480) Field Studies in Biology (1-6) A research experience-oriented field course offered in selected regional locales. Emphasis is placed on distribution, taxonomy, and ecology of animal and/or plant organisms.

BIO 585. (485) Special Topics in Advanced Biology (1-6) Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

BIO 591. Directed Independent Study (1-3)

BIO 592. Seminar at the Coast (1) A one-week field study of ecology and geology of coastal ecosystems and human effects on these fragile communities.

BIO 593. Colloquium (1) Investigation and discussion of selected topics and current issues through the interaction of students, faculty, and expert guest lecturers.

BIO 594. Practicum in College Biology Teaching (2) An introduction to theory, research, and practice in college biology teaching. Combines supervised internship in introductory biology with formal classroom instruction. For graduate students who have been awarded teaching assistantships in the Department of Biological Sciences and others with permission of instructor.

BIO 595. Seminar (1) Discussion of selected topics in biology.

BIO 596. Seminar at Sea (1) Participation in field sampling of benthos and plankton at sea, with emphasis on quantitative methodology; sampling will be done from small boats or aboard a research vessel. It is recommended that this course be taken concurrently with BIO 564 (Biological Oceanography).

BIO 599. Thesis (1-6)

MASTER OF SCIENCE IN CHEMISTRY

The Department of Chemistry offers a program of study leading to the Master of Science degree in chemistry. The objectives of this program are to give students who have an undergraduate foundation in chemistry the opportunity to engage in advanced course work, in-depth study, and independent research, in order to acquire the skills of assimilating known information and generating new knowledge. These problem-solving skills will provide the foundation for future contributions by the graduates in various areas of chemistry, whether they seek employment directly or choose to undertake further graduate study elsewhere.

Admission Requirements

Applicants seeking admission to the graduate program in chemistry are required to submit the following to the Graduate School:

1. An official application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative and advanced chemistry)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination is expected. Scores on the Advanced Chemistry portion of the Graduate Record Examination will be used for diagnostic purposes. A bachelor's degree with a concentration in chemistry from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, along with a "B" average or better in chemistry courses. Admission decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. Programs leading to the Master of Science degree require a minimum of 30 semester hours of graduate study. Up to six credit hours of graduate courses in other natural and mathematical sciences may be approved by the student's advisory committee. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.

2. Deficiencies in a student's undergraduate preparation will be ascertained by a committee of faculty members in the Department of Chemistry. Placement tests in the basic areas of chemistry may be administered to incoming students at the discretion of the faculty committee to assist with evaluation of deficiencies. Any deficiencies must be remedied prior to graduation.

3. The student must successfully complete a written and an oral comprehensive exam.

4. The student must demonstrate computer proficiency.

5. A thesis reporting the results of the student's original research project must be submitted by the student and approved by the student's advisory committee. An oral defense of the thesis is required. Each student will present a seminar on his or her research project.

6. The program shall be completed within five years of the date of first registration for graduate study.

Required Courses

CHM 501 Introduction to Chemical Research (1)
CHM 595 Graduate Seminar (1)
CHM 599 Thesis (6)
And at least two of the following courses:
CHM 516 Advanced Chemical Synthesis (3)
CHM 536 Spectroscopy (3)
CHM 521 Thermodynamics (3) or CHM 522 Rates and Mechanisms (3)

GRADUATE PROGRAM IN CHEMISTRY

Course Descriptions

CHM 501. Introduction to Chemical Research (1) Scientific proposal and manuscript preparation. Communication techniques. Experimental design and data analysis. Computer applications. Library use. Laboratory safety. Two hours each week.

CHM 515. (415) Advanced Organic Chemistry (3) Prerequisite: Two semesters of organic chemistry. Theoretical and physical organic chemistry, including chemical bonding, stereochemistry, and conformational analysis with applications to selected reaction mechanisms.

CHM 516. Advanced Chemical Synthesis (3) Prerequisite: Inorganic chemistry and two semesters of organic chemistry, or permission of instructor. Modern organic and inorganic synthesis with emphasis on carbanion and free radical intermediates. Synthesis and use of organometallic compounds. Chemical oxidations and reductions. Formation of ring systems.

CHM 517. (417) Medicinal Chemistry (3) Prerequisite: Two semesters of organic chemistry. Systematic study of the chemistry and biological activity of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents.

CHM 521. Chemical Thermodynamics (3) Prerequisite: Physical chemistry, including chemical thermodynamics. Basic concepts and principles of chemical thermodynamics as derived from the Laws of Thermodynamics. Applications of thermodynamic principles to chemical and phase equilibria, solutions of electrolytes, and electrochemistry.

CHM 522. Rates and Mechanisms (3) Prerequisite: Physical chemistry. Chemical kinetics and reaction mechanisms. Transition state and collision theories. Catalysis.

CHM 535. (435) Advanced Analytical Chemistry (2) Prerequisites: Physical chemistry and quantitative analysis or analytical chemistry. Theory of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (CHML 535).

CHML 535. (CHML 435) Advanced Analytical Chemistry Laboratory (2) Prerequisite or corequisite: CHM 535. Applications of modern analytical instrumentation and techniques. Four laboratory hours each week.

CHM 536. Spectroscopy (3) Prerequisite: Organic chemistry. Fundamentals of interaction of electromagnetic radiation with matter. Principles and applications of vibrational, electronic, multinuclear magnetic resonance, electron spin resonance, Raman, x-ray and gamma ray spectroscopic methods.

CHM 546. (446) Advanced Inorganic Chemistry (3) Prerequisite: A physical chemistry based course in inorganic chemistry. Advanced topics in theoretical inorganic chemistry.

CHM 565. (465) Biochemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Study of the physical structures of carbohydrates, lipids, amino acids, proteins, nucleic acids, vitamins and minerals, and the chemical principles governing their biological activity. Special emphasis will be given to enzyme kinetics, solution properties of macromolecules, and the thermodynamic principles of intermediary metabolism.

CHML 565. (CHML 465) Biochemical Techniques and Instrumentation (1) Prerequisite or corequisite: Biochemistry. Theory and practice of biochemical techniques, including buffer and reagent preparation, protein assay, protein purification, electrophoresis, enzyme kinetics, tryptic peptide digestion, membrane vesicle construction, DNA isolation, and radioisotope detection. Three laboratory hours each week.

CHM 575. (475) Chemical Oceanography (3) Prerequisite: General chemistry. An oceanography course is recommended. Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. Estuarine reactions, air-seawater and sediment-seawater reactions, and human impact on the oceans.

CHM 576. (476) Chemical Analysis of Natural Waters (2) Prerequisite: Permission of instructor. Chemical analysis of natural waters, including river water, lake water, ground water, rain water, and seawater. Analytical methods will be evaluated with respect to appropriate applications. Analyses include salinity, chloride, dissolved oxygen and oxygen demand, pH and alkalinity, nutrients, chlorophyll, suspended material, and dissolved metals. One lecture and three laboratory hours each week.

CHM 585. (485) Industrial and Polymer Chemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Properties, synthesis, and reactions of major industrial chemicals; synthetic plastics, polyesters, polyamides, and rubbers; soaps and detergents; petrochemicals; paints and pigments; dyes; explosives; pulp and paper; pharmaceutical and nuclear industries; mechanism of polymerization, copolymerization; physical and chemical properties of polymers; polymer characterization; advances in polymer technology.

CHM 591. Directed Individual Study (1-3) Chemical research not related to thesis work.

CHM 592. Special Topics (1-3) Study of a topic or technique in chemistry not covered in regular courses. May be repeated for credit.

CHM 595. Graduate Seminar (1) Discussion by students, faculty, and guest lecturers of research ideas and/or research results. May be repeated one time for credit

CHM 599. Thesis (1-6) Laboratory research for thesis and thesis preparation.

MASTER OF ARTS IN ENGLISH

The Department of English offers a program of study leading to the Master of Arts degree in English. Students, in consultation with their advisors, tailor their course schedules to their own career objectives and interests, selecting a variety of courses in literature, language, rhetoric and composition, and creative or professional writing.

This program is designed for those who wish to become more professionally competent as writers, editors or writing consultants in business, industry, or government, those intending to pursue doctoral study in English, and those with a keen interest in contemporary approaches to literary texts, literary theory, and composition theory. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in English are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (no more than five years old)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination, a satisfactory response to the essay question attached to the application form, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and a strong overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for admission.

The deadline for receiving applications is June 1 for the fall semester and November 1 for the spring semester. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, including ENG 501, Introduction to Research Methods in English, and ENG 502, Introduction to Literary and Writing Theory. At least 24 semester hours must be completed in residence at UNCW.

2. A maximum of six semester hours may be transferred from another accredited institution or from coursework taken as a non-degree student at UNCW. Grades on transfer work must be equivalent to "B" or better.

3. A written comprehensive examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

4. The student will present and defend a thesis, acceptable to student's graduate advisory committee, prior to graduation. The thesis defense will be open to the public.

5. Students must complete the program within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN ENGLISH

Course Descriptions

ENG 501. Introduction to Research Methods in English (3) Analysis of the content of English studies, stressing bibliographic tools and the aims and methods of literary and writing research.

ENG 502. Introduction to Literary and Writing Theory (3) Analysis of the philosophical, historical, and social foundations of literary and writing theory. Emphasis on problems of meaning, interpretation, and evaluation. Examination of relevant critical figures and schools in historical context.

ENG 504. (430) The Age of Chaucer (3) A survey of works written in medieval England. Included are The Canterbury Tales, selections from Chaucer's other works, and representative works in such genres as chronicle, biography, epic, romance, dream vision, and drama.

ENG 505. (431) The Age of Elizabeth (3) English literature in the sixteenth and early seventeenth centuries. Works studied include poetry by Spenser and Shakespeare, plays by Marlowe and Jonson, and prose by More and Sidney.

ENG 506. (432) The Age of Milton (3) Emphasis on the works of Milton. Also includes works by Donne, Herbert, and Bacon.

ENG 507. (462) Studies in the Novella (3) Types of the novella or short novel, with emphasis upon its distinctive features and development as a genre.

ENG 508. (463) Studies in Non-Fiction (3) Types of nonfiction prose, including biography, autobiography, memoirs, journals, and various forms of essay. Works from a variety of periods, authors, and traditions.

ENG 509. (490) Special Topics in Literature (3) The study of a selected theme, movement, period, influence, or genre. Content varies from semester to semester. May be repeated for credit under different subtitles.

ENG 510. Folklore (3) Study of the theory and history of folklore, customary modes of behavior, informal systems of communication, and the theory and practice of folklore collecting. Fieldwork project required.

ENG 520. Linguistics (3) Study of diverse aspects of human language, with particular attention to American English. Topics include analysis of principles of sound formation, syntax, and meaning; sociolinguistics and psycholinguistics; language acquisition and development in children.

ENG 522. History of the English Language (3) Study of the development of the English language from Old English to contemporary American dialects. Includes study of cultural, political, and linguistic factors affecting language change.

ENG 523. Modern English Grammar (3) Study of the structure of the English language, using modern methods of analysis.

ENG 524. Semantics and the English Language (3) Study of the effect of language upon thought and behavior. Particular attention is paid to practical applications of semantic theory.

ENG 525. Seminar in Linguistics (3) In-depth study of a topic in linguistics. May be repeated for credit under different subtitles.

ENG 530. Creative Writing (3) Writing instruction in four genres: essay, poetry, fiction, and drama. Comparison of techniques in the genres and analysis of work by students and professional authors.

ENG 542. Poetry Writing (3) Instruction in writing poetry, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 544. Fiction Writing (3) Instruction in writing fiction, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 550. Workshop in Advanced Writing (3) Intensive work, on an advanced level, in a specific area of writing. Topics may include essay writing, technical writing, magazine writing, writing for publication in professional journals, or journalism. May be repeated for credit under different subtitles.

ENG 552. Theories of Composition (3) Analysis of theories related to the composing process, including the social and psychological nature of writing. Critique of research and a review of critical studies.

ENG 553. Studies in Composition (3) Study of a topic in composition. Topics vary; typical offerings could include history of rhetoric, the work of one or more theorists, or theories of reading and writing. May be repeated for credit under different subtitles.

ENG 560. Topics in British Literature (3) Study of major periods in British literature. Periods may include old and middle English literature, British literature of the Renaissance, Restoration and eighteenth-century British literature, nineteenth-century British literature, twentieth-century British prose, or twentieth-century British poetry. May be repeated for credit under different subtitles.

ENG 561. Topics in American Literature (3) Study of major periods in American literature. Period may include American literature to 1865, American literature from 1865 to 1914, American literature from 1914 to 1945, or American literature since 1945. May be repeated for credit under different subtitles.

ENG 563. Topics in World Literature (3) Study of major traditions in world literature. Topics may include European literature or Third World literature. May be repeated for credit under different subtitles.

ENG 571. Literature for Adolescents (3) A reading course in the literature of selected writers who emphasize distinctive roles, experiences, feelings, and problems of adolescence. Special emphasis given to evaluating the literature studied in terms of its aesthetic appeal and its cultural significance.

ENG 572. Literary Criticism: The Major Statements (3) An historical and analytical survey of influential approaches to the study of literature, from Plato and Aristotle to Matthew Arnold, T.S. Eliot, and Stanley Fish, with attention to practical application.

ENG 580. Special Studies in Literature (3) Intensive examination of a special area of literary study. May be repeated for credit under different subtitles.

ENG 591. Directed Independent Study (3)

ENG 599. Thesis (1-6)

MASTER OF SCIENCE IN GEOLOGY

The Department of Earth Sciences offers a program of study leading to the Master of Science degree in geology. The specific goals of the program are to provide advanced research and educational opportunities in the geological sciences, and to prepare geologists for solving contemporary problems in sedimentary geology. Specific objectives of the program are: (1) to develop research competence in sedimentary geology; (2) to develop professional competence in the assessment of potential water, energy and mineral resources; (3) to develop a level of research competence in geology that encourages continued effort toward the doctoral degree; and (4) to provide the scientific community with meaningful research data on marine, coastal, and coastal plains geology.

Admission Requirements

Applicants seeking admission to the graduate program in geology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced geology)
4. Three recommendations by individuals in professionally relevant fields

Students seeking admission to the graduate program in geology must hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program, have a strong overall academic record with a "B" average on the basic courses prerequisite to geology, and satisfactory scores on the Graduate Record Examination. We accept students to our program who hold bachelor's degrees in any of the biological, physical, or mathematical sciences. All students must have completed course work in mineralogy, petrology, invertebrate paleontology, stratigraphy, structural geology, an approved summer field course in geology, and two semesters each of chemistry, physics, and calculus. Upon entrance into the master's program, the department's graduate coordinator ascertains deficiencies and recommends remedies. All deficiencies must be removed before a student is accepted as a candidate for the degree.

Degree Requirements

1. The program requires at least 30 semester hours of graduate credit, with a maximum of six credit hours for the thesis and three credit hours for seminars. A maximum of six semester hours of graduate credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate courses must be completed at UNCW including both course work and thesis. At least 18 semester hours must be completed in geology.

2. Each student must successfully complete a comprehensive qualifying oral examination that is administered no earlier than the semester the student is enrolled in final course work.

3. Each student must complete an approved course of study within five years of the date of first registration for graduate study.

4. Each student must present and defend a thesis, based on original research, acceptable to the committee, prior to graduation. The thesis defense is open to the public.

GRADUATE PROGRAM IN GEOLOGY

Course Descriptions

GLY 510. Ancient Sedimentary Environments (3) Prerequisite: Petrology, stratigraphy, field camp. Survey of ancient sedimentary environments with an evaluation of the criteria used in their recognition in the rock record. Specific ancient sedimentary sequences are examined and compared to their modern counterparts. Field trips.

GLY 511. Clastic Petrology (3) Prerequisite: Optical mineralogy. Classification and description of sandstones and mudrocks and evaluation of their diagenesis. Application of principles to economic deposits. Laboratory exercises concentrate on microscopic and X-ray techniques of analysis. Two lecture and three laboratory hours per week. Field trips.

GLY 512. Carbonate Petrology (3) Prerequisite: Optical mineralogy. Ancient carbonate rocks and modern carbonate depositional environments. Evaluation of the diagenetic processes of cementation, dolomitization and silicification, and the relationship of carbonate rocks to economic deposits. Two lecture and three laboratory hours per week. Field trips.

GLY 515. Methods of Sedimentology (3) Prerequisite: Petrology. A survey of the parameters of sedimentation. Emphasis on the processes involved in the formation of sedimentary rocks, including their origin, transport, deposition and lithification [of rock-forming minerals.] Techniques of physical and chemical analyses of sediments are stressed. One lecture and six laboratory hours per week. Field trips.

GLY 531. Micropaleontology (4) Prerequisite: Invertebrate paleontology or consent of instructor. Paleobiology and geological history of microorganisms, emphasizing the classification and systematics of major microfossil groups. Three lecture and three laboratory hours per week. Field trips.

GLY 532. Biogeography (3) Prerequisite: Consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic, and evolutionary events in the past.

GLY 533. Paleoecology (3) Prerequisite: Invertebrate paleontology or consent of instructor. Principles of ecological faunal analysis as primarily applied to the marine fossil record. Emphasizes the integration of form and function, taphonomy, and community development through time, and sedimentology/stratigraphy as a synthetic approach to paleoenvironmental, paleobiological and evolutionary analyses. Applications to biostratigraphy are considered. Field trips.

GLY 535. Stratigraphic Paleontology (3) Prerequisite: Invertebrate paleontology, stratigraphy. Analysis of the stratigraphic distribution of invertebrates emphasizing the Cretaceous and Cenozoic fossil records; application of biostratigraphic principles and

techniques in the development of high-resolution relative time scales; practical experience in the stratigraphic aspects of paleontology through field, laboratory and literature research. Two lecture and three laboratory hours per week. Field trips.

GLY 540. Regional Geology of North America (3) Prerequisite: Structural geology, stratigraphy. Survey of the rocks, structures, natural resources, and tectonic histories of different regions of North America, such as the Precambrian shield, Appalachians, and Cordillera. Syntheses of theories of orogenesis.

GLY 542. Structural Evolution of Continental Margins (3) Prerequisite: Structural geology, stratigraphy. Structural characteristics and tectonic frameworks of passive and active continental margins. Comparison of modern settings and ancient analogs in the rock record.

GLY 550. Marine Geology (4) Prerequisite: Consent of instructor. Topography, sediments, structure and geologic history of the marine and estuarine environment. Three lecture and three laboratory hours per week. Field trips.

GLY 552. Coastal Sedimentary Environments (4) Prerequisite: Consent of instructor. Sedimentary processes and environments of the world's coastal systems. Emphasis on river deltas, estuaries, bays, salt marshes, barrier islands and associated inlets. Ice-bound as well as rocky coastlines also are examined. Three lecture and three laboratory hours per week.

GLY 555. Ocean Basin Sediments (3) Prerequisite: Consent of instructor. Classification and recognition of ocean-basin sediments and their spatial distribution within the sedimentary record. Additional emphasis on the effects of ocean-bottom and near bottom currents in the erosion, transport and deposition of the terrigenous and biogenic components. Techniques of physical and chemical analysis are stressed. Two lecture and three laboratory hours per week.

GLY 560. Advanced Stratigraphy (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Stratigraphic analysis of the geologic history of North America and parts of other continents. Emphasis on interpreting lithologic assemblages and stratigraphic relations in terms of modern tectonic-depositional models. Two lecture and three laboratory hours per week.

GLY 561. Coastal Plains Geology (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Origin and development of Gulf and Atlantic Coastal Plains with emphasis on stratigraphy, structure, geomorphology and tectonic history. Field trips.

GLY 563. Seismic Stratigraphy (3) Prerequisite: GLY 510 or consent of instructor. Seismic interpretation as a means of examining the stratigraphic framework of basins and continental margins. Relationships between seismic data and depositional systems. Introduction to obtaining and processing reflection data and sound propagation. One lecture and six laboratory hours per week.

GLY 571. Sedimentary Geochemistry (3) Prerequisite: one year each of chemistry, physics, and calculus. Application of geochemistry to the formation and diagenesis of

sediments and sedimentary rocks. Examination of mineral precipitation, sediment cementation, metasomatism and chemical erosion.

GLY 580. Economic Mineral Deposits (3) Prerequisite: Mineralogy, petrology and one year of chemistry. Description of metallic and nonmetallic mineral deposits that characterize island arcs, spreading centers, and intracontinental areas. Magmatic, hydrothermal, and sedimentary processes of ore formation. Three lecture hours per week. Field trips.

GLY 590. Topics in Sedimentary Geology (1-3) Prerequisite: Consent of instructor. Advanced special topics in sedimentary geology through lectures, seminars, laboratory or field experience.

GLY 591. Directed Independent Study (1-3)

GLY 595. Seminar (1) Prerequisite: Consent of instructor. Discussion of selected areas in sedimentary geology. Two hours per week.

GLY 599. Thesis (1-6)

MASTER OF ARTS IN HISTORY

The Department of History offers a program of study leading to the Master of Arts degree in history. Specific goals of the program are: (1) to provide advanced research and educational opportunities in the study of history; (2) to prepare historians by training them in the latest research techniques, providing them with a knowledge of the most current research on historical problems; and (3) to direct students in historical research using historical documents and archives.

Admission Requirements

Applicants are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields.

The minimum requirements for admission to the graduate program in history include: Satisfactory scores on the Graduate Record Examination (verbal and quantitative) and advanced placement examination, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the basic courses prerequisite to the area of proposed graduate study.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, 27 of which must be in history. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. At least 24 hours of graduate study must be completed in residence.

2. A minimum of 24 semester hours of course work, including the thesis, must be in courses open only to graduate students. Courses open to seniors and graduate students will have additional requirements and different grading for graduate students.

3. Students must complete HST 500, 12 hours in the area of concentration and nine hours of electives. Six hours beyond HST 500 must be in seminars.

4. The student must successfully complete a written comprehensive examination that will be administered no earlier than during the final semester of enrollment in course work.

5. Each student will present a thesis, acceptable to the thesis committee, prior to graduation.

6. The student must pass a competency examination demonstrating satisfactory reading knowledge of a foreign language.

7. The program shall be completed within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN HISTORY

Course Descriptions

HST 500. Historiography and Methodology (3) Introduction to problems of historical research through examination of major historical works and current techniques of research, evaluation of sources, development of bibliography, and quantitative historical methods including the role of the computer in historical research. This course is open only to graduate students.

HST 507. (ANT 411) Advanced Field Training in Archaeology (3) Prerequisite: HST 201 or 441; graduate status, and consent of the instructor. Supervisory training for field archaeologists. Students direct specific aspects of archaeological excavation, including research design, data recovery, daily site management, and field analysis. Summers.

HST 508. (ANT 412) Historical Archaeology (3) Prerequisite: HST 201 or 441 or consent of the instructor and graduate status. Substantive investigation of the special excavation and analysis procedures, subject matter, and goals of archaeology as applied to the historic past of North America. Special emphasis placed upon historic archaeological sites in the local region. Lecture, laboratory, and field work.

HST 510. (441) Colonial History of the U.S. (3) Formation and growth of the American colonies to the conclusion of the French and Indian War (1763).

HST 511. (443) The American Revolution and the Formation of the United States, 1763-1800 (3) Organization of the British Empire, events preceding the Revolution, the war for independence, Confederation era, drafting and ratification of the federal Constitution, politics of the new nation.

HST 512. (445) The Early United States Republic (3) Era from inauguration of Thomas Jefferson, through Jacksonian democracy, to the advent of the American Civil War.

HST 513. (447) The Civil War and Reconstruction (3) The American Civil War and Reconstruction of the South through 1877.

HST 514. (449) Robber Barons and Reformers, the U.S., 1877-1917 (3) The rise of American industry and the Populist-Progressive response to urbanization and industrialization.

HST 515. (451) Twentieth Century America (3) A study of the United States from 1917 to 1950 with emphasis upon World War I, the Roaring Twenties, Depression and New Deal, World War II, and the origins of the Cold War.

HST 516. (452) America Since 1950 (3) Developments in American politics, cultural life, civil rights, and foreign policy from the time of the Truman Administration to the present, including the Cold War, Korea, the Vietnam War, Watergate, the energy crisis, the nuclear arms race, feminism, and the "Me Decade."

HST 517. (480) Topics in Afro-American History (3) An intensive historical study of selected themes and events in the history of Afro-Americans from the origins of the Atlantic slave trade to the present. May be repeated under a different subtitle.

HST 520. U.S. Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme offered in American history. This course is open only to graduate students. May be repeated one time for credit.

HST 522. U.S. Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of American history. This course is open only to graduate students. May be repeated one time for credit.

HST 524. Conflict and Consensus in American History (3) An application of the historiographic concepts of conflict and consensus in American society to the examination of specific periods or topics in American history. This course is open only to graduate students.

HST 530. (403) Medieval Civilization (3) A study of medieval institutions and culture with special emphasis on feudalism, manorialism, and the religious system of the period.

HST 532. (407) Europe in the Age of Renaissance (3) Political, economic and social changes during the Renaissance, with special attention to the artistic and intellectual achievements of the age.

HST 533. (409) Europe in the Age of the Reformation (3) Causes and development of the Protestant Revolution and the Catholic Reformation with examination of the impact of these movements on the political, economic and social institutions of early modern Europe.

HST 534. (411) Europe: From Monarchy to Revolution (3) Modern Europe from the rise of absolute kings in the seventeenth century to the defeat of the Emperor Napoleon.

HST 535. (413) Europe: The Age of Industry and Empire (3) The origins and developments of the industrial revolution in Europe; its effect on politics, population, urbanization and social class consciousness; the establishment of modern colonial empires in the nineteenth century and their place in the world economic order.

HST 536. (415) Europe and the Struggle for World Mastery (3) The rivalry of Europe's great powers leading to World Wars I and II: the causes, events, and results of those global conflicts.

HST 537. (417) Europe Since 1945 (3) The revival of Europe after the Nazi period and its division by the Cold War; political, social and economic developments on both sides of the "Iron Curtain"; decolonization of Europe's empires; movements for political and economic integration; continuing revolutionary currents; Europe's place in contemporary world politics.

HST 540. European Colloquium (3) Readings and discussion of major research trends and schools of interpretation in selected themes in European history. This course is open only to graduate students. May be repeated one time for credit.

HST 542. European Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of European history. This course is open only to graduate students. May be repeated one time for credit.

HST 544. Studies in European Biography (3) Examination of selected figures in European history and the extent to which they shaped and were shaped by their times. This course is open only to graduate students.

HST 560. Non-Western Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme or period in non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 562. Non-Western Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 564. Modernization and Revolution in the Non-Western World (3) Examination of industrialization, imperialism, nationalism, and other forces that have revolutionized traditional society in the non-Western world. This course is open only to graduate students.

HST 570. (470) Introduction to Applied History (3) A research seminar that acquaints students with the various sectors of applied history (government and public policy, archives and information management, cultural resources management, media and research organizations) and with the research methodologies unique to the field. Field trips, guest speakers, and a sponsored research project provide practical experiences for participants.

HST 572. Cultural Resources Management (3) Exploration of the theories and techniques of identifying, classifying, preserving, restoring, interpreting and managing the resources that make up this country's cultural heritage. In addition to readings, discussions, guest lectures, and field trips, students will work with public, private, and non-profit agencies directly engaged in the business of preservation, restoration, and interpretation. Special emphasis will be placed on the study of three-dimensional artifacts and the meaning of material culture to the scholar. This course is open only to graduate students.

HST 574. Museum Studies (3) An introduction to the theories and practical application of managing a museum specializing in local, state, or regional history. Through readings, lectures, field trips, and a group project, students will familiarize themselves with the following: administration, collection development, preservation, research and interpretation, exhibition, educational programs and community outreach, coordinating volunteers, and fund raising. This course is open only to graduate students.

HST 575. Historical Administration (3) Introduction to the use of historical skills in managerial or administrative settings. In addition to a survey of the literature on professionalization and the role and function of the professional in a bureaucracy, students will gain some experience in the areas of budgeting, grantsmanship, personnel administration, short-term and long-range planning, goal-setting, and strategy development. Special emphasis will be placed on issues relative to the planning, development, and

management of historic sites and properties. This course is open only to graduate students.

HST 576. (482) Community Studies (3) Provides an introduction to the methodological and practical application of community studies. Topics include: oral history, folklore, ethnography, museum and archival collection and management, and historic preservation. Students will select a research project in cooperation with one of the local museums, historical societies, public libraries, or other government agencies.

HST 584. (484) American History Through Film (3) Analysis of interpretations of American history as presented in documentary and dramatic films. Two related themes are stressed: the way Hollywood films and television programs depict contemporary views of events in American history and the way films reveal changing attitudes and values in American popular culture.

HST 590. Comparative Historical Studies (3) Comparison of developments in different eras or places in order to determine unique or common historical themes. This course is open only to graduate students.

HST 591. Directed Independent Study (limited to one per student) (1-3). This course is open only to graduate students.

HST 593. Problems in History (3) Investigation of selected problems in European, American, and non-Western History through discussions, development of bibliographies, or a research paper. This course is open only to graduate students. May be repeated one time for credit.

HST 596. Seminar: Topics in History (3) Advanced research on specialized topics using, where possible, primary sources. This course is open only to graduate students. May be repeated one time for credit.

HST 597. (497) Topics in Asian History (3) Intensive study of selected themes and events in Asian history not regularly covered in other courses. Examples of specific topics include: "The Chinese Revolution," "Meiji Japan," "Gandhian Thought," and "The Nationalist Movements." May be repeated under a different subtitle.

HST 598. Internship in Applied History (3) Prerequisite: HST 570. Academic training and practical field experience through work with a public or private historical organization, agency, or institution. Faculty supervision and evaluation of internship activities. Students must complete 120 work hours

HST 599. Thesis (1-6). This course is open only to graduate students.

MASTER'S DEGREE PROGRAMS IN MATHEMATICS

The Department of Mathematical Sciences offers programs of study leading to the Master of Arts or Master of Science degree in mathematics. The Master of Science track has options designed to prepare students for careers in business, industry, or government as well as for further study in mathematics. Applications from the sciences, industry, and management are stressed in course work from the areas of classical applied mathematics, operations research, statistics, and computer science. The more traditional Master of Arts track includes an option designed for secondary and community college teachers. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification. There is also an option for those who intend to pursue the Ph.D. degree and a more flexible option that may be used to build a strong, broad background in basic areas of both the pure and applied sides of mathematics. The Master of Science track has more admissions prerequisites and required course work.

Admission Requirements

Applications for admission may be made at any time. Applicants are required to submit, normally by March 15 for fall admission, the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (GRE) Aptitude Test. Applicants are encouraged to take the GRE Advanced Test in mathematics as well. Scores more than five years old will not be accepted. In cases where the opportunity to take the GRE may be limited (such as in certain foreign countries) the applicant may request a waiver or modification of this requirement. Such requests will be considered by the department on their individual merit.
4. Three recommendations from individuals in professionally relevant fields

Each applicant also must:

5. Have a strong overall academic record and have passed, with a "B" or better average, the following undergraduate mathematics courses or their equivalent: a standard introductory calculus sequence including multivariate calculus, a course in linear algebra, and at least 15 additional semester hours of mathematics or statistics courses beyond the level of calculus.

In addition, an applicant choosing the Master of Science track must:

6. Have had an undergraduate course in calculus-based statistics and have programming experience using a modern structured language; and
7. For the option Applied Mathematics I, be fluent in FORTRAN and have taken the following undergraduate mathematics courses or their equivalent: advanced calculus, elementary numerical methods, and introductory differential equations.

Admissions decisions are based upon examination of several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission. Such individuals may be required to take additional course work to remove deficiencies or required to demonstrate proficiency in certain areas. The student's advisory committee will determine any deficiencies and recommend appropriate remedies.

To ensure that the mathematical prerequisites have been met, any student not enrolled in the mathematics degree program or the MAT mathematics track must obtain permission from the Mathematical Sciences Department to register for any graduate course offered by the department.

Degree Requirements

1. The Master of Arts degree requires 24 semester hours of course work and six hours of seminar and thesis for a total of 30 semester hours. The Master of Science degree requires 30 semester hours of course work and six hours of thesis for a total of 36 semester hours. In each case, at least 15 hours of credit (including research seminar and thesis credit) must be earned from courses open only to graduate students.

2. The student must successfully complete a written or oral comprehensive exam that will be administered no earlier than during the final semester of enrollment in course work.

3. Each student will present a thesis, acceptable to the advisory committee, prior to graduation. The student will report orally on the thesis to an audience of students and faculty during the final semester before graduation.

Course Requirements for the Master of Arts in Mathematics

Each student must complete 30 semester hours of graduate study in mathematics including:

MAT 595 Research Seminar (2), and
MAT 599 Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Mathematics - Secondary* and Community College Teaching

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. The remaining 12 hours of course work should be selected from MAT 500 (strongly recommended) MAT 502, 515, 521, 522, 531, 551, 552, 555, 581, 582; STT 505, 511, 512.

*Information on secondary certification requirements may be obtained from the School of Education.

II. Mathematics - Preparation for Further Graduate Study

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. Recommended courses:
MAT 513 Measure and Integration (3)
MAT 531 Linear Algebra (3)

C. The remaining course work must include a coherent pair of courses in mathematics or statistics, at least one of which is open to graduate students only. Acceptable pairs of courses in algebra, analysis, applied mathematics, complex analysis, linear algebra, logic, number theory, numerical analysis, probability, statistics, and topology are listed in the advising guidelines.

III. Mathematics - General

A. Required core sequences:

Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 541-542	Modern Algebra I, II
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 535-536	Linear Programming and Discrete Optimization (3,3)

B. The remaining 12 hours of course work should include a coherent pair of courses in mathematics or statistics. No more than two courses having a CSC designator and no more than two courses having a STT designator may be used to fulfill the 30-hour requirement.

Course Requirements for the Master of Science in Mathematics

Each student must complete 36 hours of graduate study in mathematical sciences including:

MAT 599 Thesis (6)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Applied Mathematics I

A. Required core sequences:

	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory (3,3)

B. Other required courses:

MAT (STT) 565	Applied Probability (3)
MAT 515	Introduction to Complex Variables (3)
MAT (CSC) 525	Numerical Analysis (3)
MAT 506	Scientific Computing (3)

C. At least two courses selected from STT 505, MAT (CSC) 509; MAT 526, 531, 533, 535, 536, 537, 563, 564, 568, 569, 570; CSC 575

II. Applied Mathematics II

A. Required core sequences:

	MAT 535-536	Linear Programming and Discrete Optimization (3,3)
Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)

B. Other required courses:

	MAT	(STT) 565	Applied Probability (3)
	MAT	(STT) 569	Stochastic Processes in Operations Research (3)
Either	MAT	537	Nonlinear Programming
or	MAT	570	Simulation (3)

One of STT 505, MAT(CSC) 509, MAT(CSC) 525 (3)

C. The remaining course work should be selected from MAT(CSC) 504, 509, 525; MAT 506, 511, 512, 526, 531, 533, 537, 541, 570; MAT(STT) 568; STT 505; CSC 532, 575

III. Mathematical Sciences

A. Required core sequences:

Either	MAT	518-519	Applied Analytical Methods I, II
or	MAT	511-512	Real Analysis I, II (3,3)
Either	MAT	535-536	Linear Programming and Discrete Optimization
or	MAT	531, 533	Linear Algebra, Applied Matrix Theory
or	MAT	541-542	Modern Algebra I, II (3,3)

B. At least two courses selected from STT 505; MAT(STT) 565; MAT(CSC) 509, 525

C. The remaining courses may be selected from any of those required or recommended for either Option I or II of the M.S. track.

GRADUATE PROGRAM IN MATHEMATICS

Course Descriptions

MATHEMATICS

MAT 500. Introduction to Mathematical Computing (3) Prerequisite: Permission of department. Study of a structured programming language and applications on a microcomputer. Problem solving algorithms, numerical methods and graphics.

MAT 502. Survey of Applications of Mathematics (3) Prerequisite: STT 362 and either MAT 500 or computing experience. An introduction to the techniques of discrete, continuous and stochastic mathematical modeling. Model construction, data collection, and mathematical/computer analysis are emphasized. Scientific and business applications.

MAT 504. (CSC 504) Advanced Discrete Structures (3) Prerequisite: MAT 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

MAT 506. Scientific Computing (3) Prerequisite: Fluency in FORTRAN and permission of department. Introduction to scientific computations on special-purpose machines. Machine architecture, survey of current machines, array processors, parallel processing, vectorization, software, applications.

MAT 509. (CSC 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching,

matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

MAT 511-512. (411-412) Real Analysis (3-3) Prerequisite: Permission of department. Advanced study of convergence, continuity, differentiation and integration in Euclidean space. The real number system, basic topology of Euclidean spaces; sequences and series; continuity, differentiation of vector-valued functions, uniform continuity; theory of integration; implicit and inverse function theorems, Stokes' Theorem.

MAT 513. Measure and Integration (3) Prerequisite: MAT 512. Abstract measure theory. Lebesgue measure, integration, convergence theorems, absolute continuity, differentiation, Radon-Nikodym Theorem, product measures, Fubini's Theorem, Lebesgue spaces, convolution.

MAT 514. Functional Analysis and Applications (3) Prerequisite: MAT 512. Introduction to functional analysis and applications to areas such as linear and non-linear differential equations, integral equations and control theory. Topics selected from Banach spaces, operators, the Hahn-Banach Theorem, open mapping and closed graph theorems, Sovolev spaces, operators in Hilbert spaces and operational calculus.

MAT 515. (415) Introduction to Complex Variables (3) Prerequisite: Advanced calculus or MAT 511. A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties; analytic functions; power series; integration, Cauchy's Theorem, Laurent series and residue calculus; elementary conformal mappings and boundary value problems.

MAT 516. Complex Analysis (3) Prerequisite: MAT 511 and 515. Advanced study of complex-valued functions. Holomorphic and harmonic functions, Cauchy's Integral Theorem, Poisson's kernel and the Dirichlet problem, conformality, the Riemann Mapping Theorem, analytic continuation. Additional topics chosen from univalent, entire, meromorphic functions; Riemann surfaces; asymptotic methods; Mittag-Leffler, Runge and Weierstrass factorization theorems.

MAT 518-519. Applied Analytical Methods (3-3) Prerequisite: Undergraduate differential equations and advanced calculus. A thorough treatment of the solution of initial and boundary value problems of partial differential equations. Topics include classification of partial differential equations, the method of characteristics, separation of variables, Fourier analysis, integral equations and integral transforms, generalized functions, Green's functions, Sturm-Liouville theory, approximations, numerical methods.

MAT 521. (421) Number Theory I (3) Prerequisite: Permission of department. Use of algebraic techniques to study arithmetic properties of the integers and their generalizations. Primes, divisibility and unique factorization in integral domains; congruences, residues and quadratic reciprocity; diophantine equations and additional topics in algebraic number theory.

MAT 522. Number Theory II (3) Prerequisite: MAT 521. A continuation of the study of number theory using analytic methods. Number theoretic functions; distribution of

primes and the prime number theorem; the Riemann zeta function; diophantine approximation and the geometry of numbers; additional topics in analytic number theory.

MAT 525. (425) (CSC 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximations; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations. Error analysis. Certain algorithms are selected for programming.

MAT 526. Advanced Numerical Analysis (3) Prerequisite: MAT 525. Continuation of MAT 525. Rational and trigonometric interpolation, numerical integration, iterative techniques, eigenvalue problems. Numerical solution of initial and boundary value problems for ordinary differential equations, large linear systems, and partial differential equations.

MAT 531. Linear Algebra (3) Prerequisite: Permission of department. Theory of vector spaces, linear mappings and matrices. Determinants, eigenvalues, canonical forms, the Cayley-Hamilton Theorem, inner product spaces and positive definite matrices.

MAT 533. Applied Matrix Theory (3) Prerequisite: Undergraduate linear algebra and computing experience. Matrix theory and numerical techniques in linear algebra. Topics include elimination, iteration and factorization methods for systems of linear equations; minimal polynomials, eigenvalue approximations, norms and error estimates, spectral theorem, symmetric and unitary bilinear forms.

MAT 535. (435) Linear Programming (3) Prerequisite: Undergraduate linear algebra and computing experience. Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality; parametric linear programs; sensitivity analysis; modeling and computer implementation.

MAT 536. (436) Discrete Optimization (3) Prerequisite: MAT 535. Theory and applications of discrete optimization algorithms. Transportation problems and network flow problems; integer programming; computer implementation.

MAT 537. Nonlinear Programming (3) Prerequisite: Advanced calculus. Theory and applications for constrained and unconstrained nonlinear optimization. Theory of convex sets, convex and concave functions, Kuhn-Tucker conditions, duality, algorithm convergence; computational methods including penalty and barrier functions, gradient projection, and quadratic programming.

MAT 541. Modern Algebra I (3) Prerequisite: Permission of department. Introduction to group theory. Binary structures including semigroups and lattices; finite groups, structure theorems, Sylow theorems and applications; group actions; free groups and presentations; structure of abelian groups.

MAT 542. Modern Algebra II (3) Prerequisite: MAT 541. Introduction to rings and fields. Modules, integral domains, vector spaces. Structure of polynomial rings and their relation to linear algebra. Field extensions and Galois theory.

MAT 545. Group Theory (3) Prerequisite: MAT 541. Theory of groups. Isomorphism theorems; permutation groups and representation theorems; finite direct products and the fundamental theorem of abelian groups; the Sylow theorems and generalizations; normal series and solvable groups; extensions and semidirect products; theory of simple groups.

MAT 551. (451) Topology I (3) Prerequisite: Permission of department. A study of the basic concepts of general topology. Metric spaces, continuity, completeness, compactness, connectedness, separation axioms, product and quotient spaces; additional topics in point-set topology.

MAT 552. Topology II (3) Prerequisite: MAT 551 and knowledge of elementary group theory. An introduction to the concepts of algebraic topology. Classification of surfaces, manifolds, the fundamental group, covering spaces; additional topics in algebraic topology.

MAT 555. Modern Geometry (3) Corequisite: MAT 541. A survey of modern geometry from several perspectives. Euclidean and non-euclidean axiomatic geometries; finite geometries; projective geometry; transformations and invariants. Additional topics may include introductions to algebraic geometry, combinatorial geometry or differential geometry.

MAT 557. (457) Differential Geometry (3) Prerequisite: Advanced calculus. Theory of curves and surfaces in Euclidean space. Frenet formulas, curvature and torsion, arc length; first and second fundamental forms. Gaussian curvature, equations of Gauss and Codazzi, differential forms, Cartan's equations; global theorems.

MAT 558. Differentiable Manifolds (3) Prerequisite: MAT 557. A study of differentiable manifolds. Functions of several variables and mappings, implicit and inverse function theorems. Vector fields, tensors and forms, exterior derivatives, Lie derivatives, covariant derivatives and connections; Riemannian metrics, torsion and curvature tensors, Cartan's equations; Lie groups; submanifolds.

MAT 563. (463) Ordinary Differential Equations (3) Prerequisite: Undergraduate linear algebra and differential equations. Advanced study of ordinary differential equations. Existence and uniqueness; systems of linear equations, fundamental matrices, matrix exponential; series solutions, regular singular points; plane autonomous systems, stability and perturbation theory; Sturm-Liouville theory and expansion in eigenfunctions.

MAT 564. Applied Analytical Models (3) Prerequisite: MAT 519. Topics in applied analysis of current interest. Topics may include tensor analysis and relativity, quantum mechanics, control theory, fluid mechanics, waves, ocean circulation, and mathematical models in biology or economics.

MAT 565. (465) (STT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queuing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

MAT 568. (STT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

MAT 569. (STT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queuing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

MAT 570. Simulation (3) Prerequisite: MAT/STT 565. Study of computer simulation of discrete and continuous random processes. Generation of pseudo-random variables, discrete event simulation, simulation design, simulation languages, statistical analysis of simulation output. Applications to modeling stochastic systems in computer science, engineering, and operations research.

MAT 581. (481) Introduction to Mathematical Logic (3) Prerequisite: Permission of department. The formal study of truth and provability. Propositional calculus; predicate calculus. Gödel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or nonstandard analysis.

MAT 582. Set Theory (3) Prerequisite: MAT 581. An account of contemporary set theory. The Zermelo-Fraenkel axioms, ordinals and cardinals, models of set theory. The concepts of large cardinals, constructibility and the independence results.

MAT 592. Advanced Topics in Mathematics (3) Prerequisite: Consent of instructor. Advanced topics of current interest in pure and applied mathematics not covered in existing courses.

MAT 595. Research Seminar (2) Prerequisite: Consent of instructor. Designed to give the student experience in locating and learning mathematics outside the classroom setting. Use of the major mathematics journals, professional society publications and standard references including *Mathematical Reviews.* The nature of research in the mathematical sciences and research methodology.

MAT 599. Thesis (1-6)

COMPUTER SCIENCE

CSC 504. (MAT 504) Advanced Discrete Structures (3) Prerequisite: CSC 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

CSC 509. (MAT 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

CSC 525. (425) (MAT 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximation; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations; error analysis. Certain algorithms are selected for programming.

CSC 532. (432) Advanced Data Structures (3) Prerequisite: Undergraduation linear algebra and data structures. Advanced topics in data structures, with emphasis on algorithmic complexity. Recursive list manipulations; paradigms of search; bi-connectivity, strong connectivity, and precedence relations in graphs; pattern matching; search trees; methods for memory management and secondary storage; optimal techniques for sorting, merging, and selection.

CSC 575. Advanced Computer Graphics (3) Prerequisite: Undergraduate linear algebra, elementary numerical methods, data structures, and some prior familiarity with graphics. Brief review of two-dimensional graphics. Topics may include: approximation methods for curves, representations for solids, transformations, projections, hidden lines and surfaces, ray tracing, radiosity. Extensive programming required.

CSC 592. Topics in Computing (3) Prerequisite: Consent of instructor. Topics in computing of current interest not covered in existing courses.

STATISTICS

STT 505. Data Analysis (3) Prerequisite: STT 362. Introduction to exploratory data analysis. Use of stem and leaf plots, boxplots. Transformations of data, resistant lines, analysis of two-way tables, residual analysis. Comparison of robust/resistant methods with standard statistical techniques.

STT 511. (411) Design of Experiments and Analysis of Variance (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; design of experiments including completely randomized, randomized block, factorial, split-plot, and repeated measures designs; analysis of variance; non-parametric alternative methods of analysis. Statistical software packages will be used as appropriate in problem solving.

STT 512. (412) Applied Regression and Correlation (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; linear and multiple regression; correlation. Statistical software packages will be used as appropriate in problem solving.

STT 530. (430) Introduction to Non-parametric Statistics (3) Prerequisite: STT 362. Theory and methods of non-parametric statistics in the one- and two-sample problems

and their comparisons with standard parametric procedures. Non-parametric tests for comparing more than two samples; tests of randomness and independence.

STT 540. (440) Linear Models and Regression Analysis (3) Prerequisite: STT 362. Theoretical introduction to the general linear model and its application to simple linear regression and multiple regression. Estimation and hypothesis testing of model coefficients; residual analysis; analysis of covariance.

STT 565. (465) (MAT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queuing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

STT 566-567. (466-467) Mathematical Statistics (3-3) Prerequisite: STT 362. A rigorous introduction to mathematical statistics. Univariate and multivariate probability distributions; conditional and marginal distributions; theory of estimation and hypothesis testing; limiting distributions and the central limit theorem; sufficient statistics and the exponential class of probability density functions.

STT 568. (MAT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

STT 569. (MAT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queuing theory, birth-death processes, embedded Markov chains, finite and infinite waiting-room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

STT 592. Topics in Statistics (3) Prerequisite: Consent of instructor. Topics in statistics of current interest not covered in existing courses.

THE CAMERON SCHOOL OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION

The Cameron School of Business Administration offers a program of study leading to a Master of Business Administration degree for any qualified holder of a bachelor's degree from an accredited college or university regardless of undergraduate field of study. The program's purpose is the development of the broadly educated professional manager.

Specific objectives include:

Preparation in the traditional functions of business, such as accounting, economics, finance, marketing, business regulation and legal environment, information systems, organizational behavior, and operations management;

Preparation for the current and future challenges facing the leaders of tomorrow with emphasis on such key areas as communications, organizational change, international business, social responsibility, and ethics, strategic planning and corporate policy;

A program designed for active participation of leaders in the business and professional community; and

Quality instruction by well-qualified and experienced faculty, with classes scheduled for evening students.

Admission Requirements

Applicants seeking admission to the graduate program in business administration are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Management Admission Test (GMAT)
4. Three recommendations including one from an employer or supervisor who can comment on the applicant's work experience and potential for successful completion of a master's program.

A strong overall academic average, a total score of 1,000 or more based on the formula: 200 times the upper division grade point average (4.0 systems) plus the GMAT score, and at least one year of appropriate full-time work experience are minimum requirements for consideration for graduate admission. However, admission decisions are based upon several factors, and if other indicators of success are evident, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. 54 semester credit hours of approved graduate credit must be satisfactorily completed for the degree. This number of credit hours may be reduced for students who qualify for, and are granted, certain course waivers. Petitions for waiver are submitted to the dean of the Cameron School of Business Administration upon acceptance for admission into the

program. Despite the number of waivers granted, a minimum of 42 semester hours of graduate study must be completed. Up to six hours of graduate study may be accepted as transfer from an accredited college or university. However, the last 36 hours of graduate study must be completed at the University of North Carolina at Wilmington.

2. The student must satisfy a minimal mathematics requirement in calculus. This requirement may be satisfied by completing MAT 151, its equivalent, or by passing the Advanced Placement Test (AB) in calculus.

3. The student must successfully complete a qualifying examination consisting of a oral comprehensive examination.

4. Each student must complete the approved course of study within five years of the date of first registration for graduate study.

Course Requirements for the Master of Business Administration Degree

Students with undergraduate or graduate work in business administration may have the program of study reduced through waivers for certain courses. Students with no prior work in business administration will be required to take the following program.

A. Core Requirements (24 semester hours)

The following courses comprise the core of knowledge essential to a basic understanding of modern business and managerial practice. These courses must be completed by each student unless evidence is presented of substantial academic work in such courses at the undergraduate or graduate level. Requirements may be waived on a course-by-course basis by the MBA Advisory Committee, subject to approval of the dean of the Cameron School of Business Administration.

ACG	501	Financial Accounting (3)
ECN	520	Economic Analysis I (3)
PDS	513	Quantitative Methods (3)
PDS	518	Management Information Systems (3)
BLA	560	Legal Environment and Business Regulation (3)
MGT	550	Organization Theory and Behavior (3)
FIN	535	Managerial Finance (3)
MKT	540	Marketing Management (3)

B. Professional Competence and Integrative Applications (24 semester hours)

In addition to the Core Requirements, the following courses develop depth and breadth of knowledge and provide analytical skills for practical application.

ACG	502	Managerial Accounting (3)
ECN	521	Economic Analysis II (3)
MGT	555	Practice of Management (3)
PDS	517	Production/Operations Management (3)
MGT	565	Current Issues in Business (1-1-1)
MGT	595	Corporate Policy and Strategy (3)
FIN	536	Financial Policy (3)
MKT	546	Strategic Marketing (3)

C. Electives (six semester hours)

Candidates will strengthen their knowledge and sharpen their skills in particular areas by taking at least two courses from the elective areas: accountancy, economics, management, marketing, finance, production and decision sciences.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

Course Descriptions

ACCOUNTANCY

ACG 501. Financial Accounting (3) An intensive course in accounting principles with special emphasis on the concepts underlying income determination, preparation and interpretation of financial statements and the managerial uses of accounting information. Topics include transaction analysis, asset valuation and expense and revenue recognition, capital structure and tools of financial analysis.

ACG 502. Managerial Accounting (3) Prerequisite: ACG 501. Interpretation and use of accounting information in the planning, coordination and controlling of business activities. Topics include cost behavior, manufacturing and distribution cost-volume-profit relationships; effects of taxation and price-level changes on business decisions; budgeting and responsibility accounting. Case studies emphasized.

ACG 503. Advanced Managerial Accounting (3) Prerequisite: ACG 502. An in-depth study of cost concepts appropriate for decision-making and of the budgetary procedures used in planning and control. Emphasis is placed on relating recent advances in the quantitative and behavioral sciences to the role of the contemporary managerial accountant. Case analysis is emphasized.

ACG 506. Current Issues in Financial Accounting (3) Prerequisite: ACG 501. Advanced study of the principles and theory underlying the preparation of financial statements. Consideration is given to the problems related to pension plans, long-term leasing arrangements, refunding of bonds outstanding, allocation of income taxes, changing price levels, and other controversial issues. Utilizes text, authoritative statements, and articles from the current literature.

ACG 508. Taxation and Business Decisions (3) Prerequisite: ACG 501. The accounting and managerial effects of taxation upon decisions, policies, and procedures in the planning, organization, and operation of a business enterprise. Areas covered include the taxing process; taxation of individuals, corporations and fiduciaries; investment incentives; capital gains and losses; tax shelters; and tax planning. Problems and case analysis are used.

ACG 565. Current Issues in Business (1-1-1) (see MGT 565.)

ACG 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

BUSINESS LAW

BLA 560. Legal Environment and Business Regulation (3) A study of the management process and how it is influenced by the constitutional, legislative, judicial, regulatory, administrative, and social forces exerted on the business and social environment.

BLA 565. Current Issues in Business (1-1-1) (See MGT 565.)

BLA 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MANAGEMENT

MGT 550. Organization Theory and Behavior (3) Study of historical, theoretical and practical foundations for understanding organizational structure, behavior and performance. Emphasis on problem solving issues and applications in design, leadership, motivation and interpersonal communications.

MGT 555. Practice of Management (3) Prerequisite: BLA 560 and MGT 550. Major problems and decision areas confronting middle and upper-level managers. Topics include long-range planning, management by objectives, project management, leadership style, and performance appraisal. Case analysis is used to foster application of current managerial techniques to the analysis, solution, and prevention of organizational problems.

MGT 556. Human Resource Systems (3) Prerequisite: MGT 550. A study of manpower planning, training and development, job analysis, employee evaluation, labor legislation, history of the labor movement and the processes for negotiating and establishing workplace rules and procedures. Designed to foster understanding of the management of human resources rather than a technical orientation.

MGT 558. Organizational Behavior (3) Prerequisite: MGT 550. An examination of the persistent human problems in organizations including motivation, resistance to change, interpersonal and intergroup conflict, managing superior/subordinate relations. This course incorporates ideas from the behavioral sciences to provide a foundation for identifying and solving the human side of an organization's operations. Case studies are emphasized.

MGT 565. Current Issues in Business (1-1-1) Current and emerging issues that affect and are affected by business. Topics focus on three major categories: (1) International Business; (2) Communications and Technology; and (3) Business Trends and Developments. At least three hours are required and each candidate must include at least one hour in each of the above categories.

MGT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MGT 595. Corporate Policy and Strategy (3) Prerequisite: To be taken in the final year of the candidate's program of study. An integrative course focusing on factors considered by top-level executives in formulating both short-term and long-term corporate strategies. Particular attention is directed toward analysis of business trends, development of corporate strengths, and formulation of policies and plans. Involves extensive use of case analysis.

ECONOMICS

ECN 520. Economic Analysis I (3) Prerequisite: The mathematics of calculus. Economic analysis of demand, cost, resource allocation, and decision-making in alternative market structures for an individual firm and household perspective. Aggregate economic analysis examining monetary and fiscal policy and their effects on employment, income and the price level.

ECN 521. Economic Analysis II (3) Prerequisite: ECN 520 and PDS 513. An examination of the economic environment in which businesses make decisions. Particular attention to world-wide economic integration and decision-making in this environment. Topics emphasize government economic policy as to its effects on the cost, availability and use of funds. Hedging and financial decision-making in an international context receive special consideration.

ECN 526. International Trade and Finance (3) Prerequisite: ECN 520 and FIN 535. A study of the principles underlying world trade, exchange rate adjustments, balance of payments analysis, international financial markets, direct foreign investment, the international monetary system and the new international economic order. Discusses U.S. commercial policy, transnational corporations, international joint ventures, economic integration, preferential treatment and world-wide trading practices.

ECN 528. International Finance Instruments and Markets (3) Prerequisite: ECN 521 and FIN 535. An overview of world-wide money and capital markets. Sources, used and cost of funds and the impact of various central banks and treasuries are analyzed from a world-wide integrated market perspective. Primary emphasis on financial decision making in an integrated world economy with flexible exchange rates.

ECN 565. Current Issues in Business (1-1-1) (see MGT 565.)

ECN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

FINANCE

FIN 535. Managerial Finance (3) Prerequisite: ACG 501 and ECN 520. Financial decision-making in the modern business organization. A study of the basic principles, concepts, and analytical tools in the primary areas of finance including valuation models, cost of capital, capital budgeting, capital structure, and working capital policy.

FIN 536. Financial Policy (3) Prerequisite: FIN 535. Conceptual foundations for theories in the major areas of financial management, the theoretical context and validity of formalized techniques for improving decision making in capital budgeting, capital structure, dividend policy, mergers, bankruptcy, the use of convertible securities, and international finance. Case studies used extensively to supplement the conceptual foundations.

FIN 537. Financial Institutions and Markets (3) Prerequisite: FIN 535. Financial institutions as suppliers of funds to the money and capital markets. Comparative financial policies and portfolio considerations of institutions in the context of their changing market environments. The impact of the economic and regulatory climate on portfolio adjustments also are examined. Cases and bank simulation analysis used.

FIN 538. Investments and Portfolio Analysis (3) Prerequisite: FIN 535. Analysis of financial assets as appropriate investment alternatives. Analysis and evaluation of securities and portfolio management. Securities market information and theories of security selection are examined.

FIN 565. Current Issues in Business (1-1-1) (See MGT 565.)

FIN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MARKETING

MKT 540. Marketing Management (3) An examination of the major factors to be considered in the analysis, development, and control of marketing programs. Particular attention is directed to decisions concerning product service offering, price strategy, promotional methods, and the channels of distribution. Emphasis is placed on the role that marketing plays in the overall operation of the firm.

MKT 546. Strategic Marketing (3) Prerequisite: MKT 540. Major factors considered are setting marketing objectives, identifying market opportunities, selecting target markets, developing new products, formulating integrated marketing strategies, and solving marketing problems. Case analysis is used extensively to foster the application of marketing models and techniques to improve organizational performance.

MKT 548. Promotional Management (3) Prerequisite: MKT 540. Theories and practices of advertising, sales management, and sales promotion as they relate to the total marketing effort. Attention is directed to sales forecasting, media analysis, and the criteria for evaluating the results of the integrated marketing program. Case study is emphasized.

MKT 549. Marketing Research and Analysis (3) Prerequisite: PDS 513 and MKT 540. An examination of methods of gathering, processing, and analyzing information from the marketplace. Topics covered include problem identification, research design, primary and secondary sources of data, methods of data collection, scaling methods, and sampling techniques. Particular attention is directed to data-generation methods and improving marketing decision-making.

MKT 565. Current Issues in Business (1-1-1) (See MGT 565.)

MKT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

PRODUCTION AND DECISION SCIENCES

PDS 513. Quantitative Methods (3) Prerequisite: Completion of mathematics through calculus. Techniques for the analysis of business data. Topics include descriptive and inferential statistical methods, probability theory, and linear programming.

PDS 514. Advanced Quantitative Methods (3) Prerequisite: PDS 513. Quantitative techniques for the solution of business problems. Topics include mathematical programming, simulation, queuing theory, network theory, and game theory. Emphasizes the mathematical formulation and solution of problems using a computer.

PDS 517. Production/Operations Management (3) Prerequisite: PDS 513 and MGT 550. Techniques to aid the operations manager in making key decisions during the initial, online, and control stages of production. Topics include product and process design; facility size, location and layout; demand forecasting; production and work-force planning; quality control; and facilities maintenance. Formulation of problems for solution by the computer is an integral part of the course.

PDS 518. Management Information Systems (3) A study of the process of analyzing, designing, and implementing computer-based systems that have information as their product. Minicomputer and microcomputer projects provide opportunities for comparing concepts with actual systems. An introduction to the BASIC programming language and orientation on the VAX minicomputer system are integral parts of the course.

PDS 519. Advanced Business Statistics (3) Prerequisite: PDS 513. Advanced statistical applications used to support the business decision-making process. Topics include multiple linear regression, nonlinear regression, time-series analysis, experimental design, decision theory, and non-parametric statistics.

PDS 565. Current Issues in Business (1-1-1) (See MGT 565.)

PDS 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

SCHOOL OF EDUCATION

MASTER OF EDUCATION

The School of Education offers four master's degree programs in professional education: (1) a Master of Education program in elementary education, (2) a Master of Education program in reading education, (3) a Master of Education program in special education with a track in cross-categorical areas, (4) a Master of Education program in educational administration and supervision with tracks in educational administration and supervision.

Admission Requirements

Applicants seeking admission to a graduate program in education are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Miller Analogies Test
4. Three recommendations by individuals in relevant professional fields

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in elementary education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in early childhood education, intermediate education, elementary education, or middle grades education. Applicants to the program in special education are required to hold or be qualified to hold, North Carolina Class "A" special education teacher certification in at least one area of exceptionality and are required to have taken at least one course in mental retardation, one course in learning disabilities, and one course in emotional disturbance. Applicants to the educational administration and supervision and reading programs are required to hold, or be qualified to hold North Carolina Class "A" elementary, middle grades or secondary teacher certification.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exception is appropriate may include community college administrators and teachers. In such instances, the programs may be modified appropriately. However, upon completion of the graduate program individuals admitted under such exceptions are not qualified for the institution's recommendation for North Carolina Board of Education instructional or administrative certification. (NOTE: Certification requirements change, and requirements must be adjusted to accommodate new mandated competencies and guidelines. Students are advised to check with their advisors or the dean's office to keep abreast of changes).

Students who seek professional improvement, but do not intend to pursue a degree may register for graduate courses through procedures established for non-degree students.

Degree Requirements

Elementary Education

The program leading to the Master of Education degree in elementary education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in early childhood education (K-4), or intermediate education (4-6) or elementary education. The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies common to both specialties, 18 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and elementary specialty courses. The National Teacher Examination, specialty area, is required for certification.

I. Elementary Core

EDN	500	Human Development and Learning (3)
EDN	502	Schools and Society (3)
EDN	523	Research in Education (3)
		or
EDN	525	Tests, Measures and Measurement in Education (3)
EDN	530	Curriculum (3)

II. Elementary Specialty Courses

Choose six courses, at least one from each of the following groups.

A. Mathematics

EDN	542	The Teaching of Mathematics (3)
*EDN	546	Diagnosis and Remediation in Mathematics (3)

B. Literacy

EDN	501	Language Development (3)
*EDN	534	Teaching Developmental Reading (3)
*EDN	535	Diagnosis and Teaching of Reading/Language Arts (3)
EDN	537	Linguistics for Teachers (3)
EDN	538	Teaching of Writing (3)
EDN	539	Children's Literature (3)
EDN	540	Adolescent Literature (3)
EDN	547	Integrating Language Arts and Reading: Classroom Practice (3)

C. Social Studies

EDN	543	The Teaching of Social Studies (3)

D. Science

EDN	544	Teaching of Science in the Elementary Schools (3)
EDN	548	Inquiry - The Method of Science (3)

III. Electives

Six semester hours.

EDN 599 Thesis may be selected (1-6 hours)

*Field-based activities will be required in this course. Such activities will be designed cooperatively and supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education, or Tests, Measures, and Measurement in Education. A comprehensive examination will be required.

Reading Education

The program leading to the Master of Education degree in reading education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification.

The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of controlled electives.

Based upon the view of the professional as decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a reading specialization with related language arts options. The National Teacher Examination, specialty area, is required for certification.

I. Reading Education Core

EDN	500	Human Development and Learning (3)
EDN	523	Research in Education (3)
EDN	525	Tests, Measures and Measurement in Education (3)
EDN	530	Curriculum (3)

II. Concentration

A. Group I (3 hours)

Select one:

EDN	501	Language Development (3)
EDN	537	Linguistics for Teachers (3)

B. Group 2 (15 hours)

EDN	505	The Reading Process (3)
*EDN	534	Teaching Developmental Reading (3)
*EDN	535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN	536	Teaching Reading in the Content Areas (3)
*EDN	572	Practicum in Reading (3)

C. Group 3 (6 selected hours)

EDN	538	The Teaching of Writing (3)
EDN	539	Children's Literature (3)
EDN	540	Adolescent Literature (3)
EDN	545	Black Literature and Resources for Teachers (3)
*EDN	547	Integrating Language Arts and Reading: Classroom Practice (3)

EDN	559	Adult Literacy (3)
*EDN	573	The Disabled Reader (3)
EDN	599	Thesis (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed in the required course, Research in Education. A comprehensive examination will be required.

Applicants who do not hold North Carolina Class "A" teacher certification may be admitted. In such cases, the specified undergraduate courses necessary for education certification will be required in addition to the graduate courses.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Special Education

The program leading to the Master of Education degree in special education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in special education in at least one area of exceptionality. The program is cross categorical in nature with emphasis in three areas of the mildly handicapped: mental retardation, learning disabilities, and behaviorally/emotionally handicapped. The 36-semester hour program is comprised of 15 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and three semester hours of controlled electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a concentration in special education. The National Teacher Examination, specialty area, is required for certification.

I. Special Education Core (15 hours)

EDN	501	Language Development (3)
EDN	503	Exceptional Child Development (3)
EDN	511	Organizational Behavior (3)
EDN	523	Research in Education (3)
EDN	530	Curriculum (3)

II. Concentration (21 hours)

A. Group 1 (18 hours)

EDN	524	Consultation Strategies for Teachers of Exceptional Children (3)
*EDN	535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN	546	Diagnosis and Remediation in Mathematics (3)
EDN	552	Program Development for the Mildly Handicapped (3)
EDN	553	Classroom Management of Mildly Handicapped Children (3)
*EDN	574	Practicum in Special Education (3)

B. Group 2 (3 selected hours)

EDN	504	Issues and Trends in Special Education (3)
EDN	554	Educating Young Handicapped Children (3)
EDN	555	The Mildly Handicapped Adolescent (3)

EDN	591	Independent Study (3)
EDN	595	Selected Topics in Education (related to exceptional children) (3)
EDN	599	Thesis, may be selected (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education. A comprehensive examination will be required.

Students who are accepted provisionally (without at least one course in mental retardation, one course in learning disabilities, and one course in behaviorally, emotionally handicapped) will take these courses before receiving the master's degree.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Educational Administration and Supervision

The Master of Education program in educational administration and supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instructional specialist. The 33-semester hour program is comprised of 15 semester hours of conceptual and technical studies common to both specialties, 12 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed. The National Teacher Examination, specialty area, is required for certification.

I. Administration-Supervision Core

EDN	502	Schools and Society (3)
EDN	510	Organization and Control of American Education (3)
EDN	511	Organizational Behavior (3)
EDN	521	Decision-Making (3)
EDN	523	Research in Education (3)

II. Administrative Track

EDN	512	Legal Structures in Education (3)
EDN	560	Personnel Administration (3)
*EDN	561	Leadership Application (3)
*EDN	570	Internship in Educational Administration (3)
Electives, Six semester hours		
or		
EDN	599	Thesis, may be selected (6)

III. Supervision Track

EDN	500	Human Development and Learning (3)
*EDN	520	Instructional Development (3)
*EDN	530	Curriculum (3)

*EDN 571 Internship in Educational Supervision (3)
Electives, Six semester hours
or
EDN 599 Thesis, may be selected (6)

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, EDN 521, Decision Making, and EDN 523, Research in Education. A comprehensive examination will be required.

MASTER OF ARTS IN TEACHING

The School of Education offers a program of study leading to the Master of Arts in Teaching degree. This program is comprised of a core of professional studies designed to enhance the instructional decision-making skills of secondary teachers and a specialization track designed to enhance knowledge of subject matter, structure of the disciplines, the appropriate modes of inquiry. The program seeks to address the continuing commitment to strengthen the university's contribution to the improvement of educational service to the clients of elementary and secondary schools in southeastern North Carolina through the Master of Arts in Teaching for secondary teachers in the following specialties: biology, chemistry, English, history, and mathematics.

The Master of Arts in Teaching program provides advanced academic and professional study and training for individuals holding, or qualified to hold, North Carolina Class "A" secondary teacher certification in one of the academic specialty fields included in the program. The program is comprised of 36 semester hours, 12 in professional education as specified below, and 24 in the academic specialty.

Admission Requirements

Applicants seeking admission to the Master of Arts in Teaching program are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields

A combined score of 1000 on the verbal and quantitative portions of the Graduate Record Examination; also, where required by the corresponding M.A. and M.S. program, applicants to the Master of Arts in Teaching program will be required to submit scores on the relevant specialty portion of the Graduate Record Examination; a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; an overall academic average of "B" or better in the basic courses prerequisite to the area of proposed graduate study; and hold, or be qualified to hold, North Carolina initial teacher certification in the area of proposed study.

Degree Requirements

1. The program requires a minimum of 36 semester hours, with 12 prescribed in professional education and 24 in the area of academic specialization. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. A written comprehensive examination addressing both the professional core and the academic specialty will be required.

3. The program shall be completed within five years of the date of first registration for graduate study.

I. Professional Core

EDN	500	Human Development and Learning (3)
EDN	520	Instructional Development (3)
EDN	523	Research in Education (3)
EDN	565	Curriculum and Instruction in Secondary Subjects (3)

II. Academic Track

A. Biology

24 semester hours are required. Of this number, three are common to all students, and 21 will be selected in consultation with the program advisement committee. The common requirements are:

BIO	501	Introduction to Scientific Research and Presentation (1)
BIO	593	Colloquium (1)
BIO	595	Seminar (1)

B. Chemistry

24 semester hours are required. Of this number, five are common to all students, and 19 will be selected in consultation with the program advisement committee. Within the latter category, a maximum of six semester hours may be selected from other disciplines in the natural and mathematical sciences. The common requirements are:

CHM	501	Introduction to Chemical Research (1)
CHM	591	Directed Individual Study (Chemical Research) (3)
CHM	595	Graduate Seminar (1)

C. English

24 semester hours are required. Of this number, 18 are specified among four areas, and six may be selected in consultation with the program advisement committee. The common requirements are:

ENG	501	Introduction to Research Methods in English (3)
ENG	502	Introduction to Literary and Writing Theory (3)
ENG	520	Linguistics (3)
ENG	572	Literary Theory and Criticism (3)

In addition, all students will select at least two courses in the study of literature, which may include EDN 545, Black Literature and Resources for Teachers (3). Students will utilize the remaining six semester hours to extend one of three areas of interest: linguistics, writing, and literature.

D. History

24 semester hours are required in the following pattern:

HST	500	Historiography and Methodology (3)

A 12-semester hour concentration, including seminar and colloquium in one of the following areas:
American history
European history
Non-western history

Six to nine semester hours selected from the two remaining concentration areas. Three semester hours may be selected from another social science or humanities discipline, but may not be included in the concentration. The program also shall meet the following additional constraints: Two additional

seminar or colloquium courses and two post-1900 courses, at least one of which must be in the concentration area.

E. Mathematics

24 semester hours are required. Of this number, 12 are common to all students and 12 will be selected in consultation with the program advisement committee. The common requirements are:

MAT 511-512 Real Analysis I, II
MAT 541-542 Modern Algebra I, II

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500. Human Development and Learning (3) Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501. Language Development (3) Focus on the development of language and its relation to cognitive processes in young children. Theories of language learning and growth are explored in terms of patterns of evidence and in terms of implications for decision-making affecting school children. Concepts associated with language structure, functions, and processes are developed. A variety of language and language-education topics are explored.

EDN 502. Schools and Society (3) Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, and biculturalism.

EDN 503. Exceptional Child Development (3) Prerequisite: EDN 501. Designed to provide and understanding of the intellectual, emotional, and physical development of exceptional children. The interplay of biological and environmental factors that produce deviations in development is examined. Organized around a developmental approach to the study of exceptionality that suggests strategies for determining bases of exceptionality. Implications of development differences for the special educator will be stressed.

EDN 504. Issues and Trends in Special Education (3) Designed to focus on emerging directions related to the education of exceptional children. Relevant social, educational, bio-medical, developmental, psychological, and legal issues will be examined as well as implications for the schools.

EDN 505. The Reading Process (3) Prerequisites: EDN 523, 525, or consent of the instructor. Develops conceptualization of the process of reading in mature readers and

of stages in literary development. Analysis of psychomotor and psycholinguistic parameters of reading, word recognition and sentence processing both for beginning and advanced readers, the task of learning to read, factors affecting reading development, and of schema theories of comprehension.

EDN 510. Organization and Control of American Education (3) Designed to include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511. Organizational Behavior (3) Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social-systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512. Legal Structures in Education (3) Prerequisites: EDN 510 or approval of department. Designed (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally consistent practices.

EDN 520. Instructional Development (3) Designed to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and objective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experience.

EDN 521. Decision-Making (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities in identification and analysis of decision situations and decision alternatives, in procedures for choice and in design and analysis of educational information system. Contents will include study of alternative decision-making models, procedures for choice, evaluation of educational programs, and educational information systems. The activities will include lecture, discussion, and simulated and real applications to decision situations in schools systems.

EDN 522. Educational Media (3) Designed to provide students with the theory and practical skills necessary for selecting, producing, and evaluating instructional materials. Students will learn to produce and use a variety of audio-visual materials including graphics, transparencies, slides, and video-tapes. Instruction in operating and troubleshooting equipment also will be treated. The primary goal of this course is to develop

confidence and competency in the media area. This course will include lectures and a workshop format. During the course students will produce media materials for an instructional unit.

EDN 523. Research in Education (3) Designed to develop research competencies required for interpretation and critique of research reports and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 524. Consultation Strategies for Teachers of Exceptional Children (3) Designed to develop communication skills relevant for the decision-making roles of the special education teacher. Emphasis on group dynamics, conflict resolution, generation of alternative solutions, interview procedures, parent conferences, team meetings, orientation of general educators, and mainstreaming handicapped children.

EDN 525. Tests, Measures, and Measurement in Education (3) Prerequisite: EDN 301, EDN 520, or approval of instructor. Designed to develop a conceptual framework for obtaining and interpreting data about behavioral and psychological traits of persons that may be needed for a variety of purposes. Particular attention will be given to developing understanding of validity of measures for the intended purposes and for assessing the trait that is intended to be measured. Students will learn to make judgments of validity of testing systems and to develop valid tests and testing systems. Mathematical and statistical tools will be studied for analyzing items, tests, and scores and students will practice their use. Students will learn to use computers for test development, and test administration, and to analyze records of performance on tests.

EDN 530. Curriculum (3) Develops a conceptual framework for understanding curriculum in relation to other aspects of educational systems. Students learn to evaluate curricula in terms of structural elements, underlying value orientations, and assumptions about subject matter and about learning. Introduction to issues of curriculum change, implementation, evaluation, development, and design.

EDN 531. Study of Teaching in Early Childhood Education (3) Designed to improve teaching performance and to develop competencies in the critical analyses of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532. Comparative Studies in Early Childhood Education (3) Prerequisite: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an in-depth cross-cultural survey of early childhood education in selected countries. The history of philosophical thoughts, the political and socio-economic changes and research efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533. Early Childhood Education in Focus (3) Prerequisite: EDN 500, 501, 502, or approved of department. Designed to develop the ability to look to current trends and issues in early childhood education. Objectively, this course will include critical analysis of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 534. Teaching Developmental Reading (3) Develops understandings of an effective classroom reading program. Reviews practices, materials, and approaches for teaching basic reading skills through the analysis of research literature and critique of personal beliefs and practices.

EDN 535. Diagnosis and Teaching of Reading/Language Arts (3) Designed for the elementary, special education, and reading teachers, this course focuses on the comparison of alternative models for assisting individual learners with literacy/language learning. Students review current diagnostic tests, new diagnostic procedures, develop teaching strategies and apply those understandings to the tutoring of individual students. A diagnostic report is generated. Students are expected to articulate a position concerning the viability of models for diagnostic teaching in their school setting.

EDN 536. Teaching Reading in the Content Area (3) Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in a particular content area.

EDN 537. Linguistics for Teachers (3) A study of current American English and of the principles of analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom. Includes exploration of language related educational issues such as bilingualism, dialects, and disorders.

EDN 538. The Teaching of Writing (3) Intensive review of principles of grammar, rhetoric and usage (approximately ½ of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539. Children's Literature (3) Develops skills and understanding to improve teachers' competencies in formulating sound literature programs. Includes in-depth study of the functions of children's literature and criteria for evaluation of types of literature suitable for children at various developmental levels. Factors influencing change such as paperbacks, representation of minorities, sexism, and censorship will be discussed.

EDN 540. Adolescent Literature (3) A comprehensive study of literature appropriate for the middle grades, its value in the school curriculum and its importance in fulfilling

intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related materials are covered. Projects related to instructional preparation and student activities are required.

EDN 542. The Teaching of Mathematics (3) Focus on materials and methods for teaching mathematics in grades K-9, with emphases on the logical, psychological, and sociological foundations of mathematics education. A survey of curricula appropriate at the K-9 level. Library research in current topics related to the teaching of mathematics.

EDN 543. The Teaching of Social Studies (3) Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544. Teaching of Science in the Elementary School (3) To assure that science at the elementary school level is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at the elementary school level. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545. Black Literature and Resources for Teachers (3) A survey of black literature, including the examination of materials published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 546. Diagnosis and Remediation in Mathematics (3) The study and application of teaching mathematics in the diagnostic mode. Included will be a historical review of diagnostic procedures in mathematics, a survey of mathematics curriculum, an examination of the theoretical models of diagnosis and of materials useful to the classroom teacher or clinician. Intensive work with children experiencing difficulty in mathematics will be required.

EDN 547. Integrating Language Arts and Reading: Classroom Practice (3) Develops student ability to conceptualize and implement a classroom communication arts program. Analyzes patterns of learning and practices in teaching language arts processes and skills. Examines strategies for fostering language arts growth through integrated language activities. Field activity required.

EDN 548. Inquiry — The Method of Science (3) The course assumes initial-level competency in the curriculum and methods of science. The course will focus on the conceptualization of and rationale for using the inquiry method of teaching science. Students will participate in activities taken from a variety of science curriculum programs for elementary through senior high school. The course also will provide students with an opportunity to acquire and practice the skills needed to utilize the inquiry

method and to guide scientific investigations at K-12 levels. Methodology and types of activities appropriate to the student's level of teaching will be selected.

EDN 549. Middle School Education (3) Study of educational programs for upper elementary education (junior high, middle school, intermediate school). Review of learning, physical, and social characteristics of "transescents" and historical and current approaches to their education. Comparison and contrast of curriculum, instruction, administrative and organizational features of exemplary and typical intermediate, middle and junior high schools.

EDN 550. Nature and Needs of Exceptional Children (3) This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics, etiology, educational procedures, and psycho-social implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is open only to elementary majors and administration/supervision majors.

EDN 552. Program Development for Mildly Handicapped (3) Prerequisites: EDN 502 and 530. Designed to develop an understanding of how to develop and teach relevant curricula to handicapped children through systematic instruction. Focus on characteristics and etiology, assessment, planning, implementation of instructional plans, and selection and utilization of appropriate methods and materials for a wide range of curricular areas.

EDN 553. Classroom Management of Mildly Handicapped Children (3) Designed to develop knowledge and skills, necessary for planning and implementing various classroom management strategies. Focus on observation and measurement of behaviors, design of classroom management strategies, utilization of strategies in the special education and regular classroom environment.

EDN 554. Educating Young Handicapped Children (3) Overview of early childhood education for the handicapped. Trends toward early identification of handicapping conditions and appropriate intervention strategies will be examined. Methods for dealing with developmental delays in regular and special preschool settings will be studied. Working with parents and primary caretakers of young handicapped children will be emphasized.

EDN 555. The Mildly Handicapped Adolescent (3) Designed to provide a basis for understanding the educational needs of mildly handicapped adolescents. The following topics will be covered during the course: the impact of handicapping conditions on the developmental tasks of adolescence; strategies for the remediation of deficits in basic skills; the interrelationship of vocational intervention; the current status of educational programs for the mildly handicapped.

EDN 556-557. Clinical Teaching in Reading Recovery (3-3) Prerequisite: Permission of the instructor. Develops skills in observing, recording, and analyzing children's reading and writing behaviors and in implementing effective methods for teaching literacy to young children at risk of reading failure. Generates understanding of theories of

reading and writing processes and of reading acquisition from an emergent literacy perspective.

EDN 559. Adult Literacy (3) Examines the definition of illiteracy and the problem of adult literacy. Reviews approaches to dealing with the problem from philosophical, pedagogical, and sociological bases. Reviews the many movements to overcome the problem in the United States and abroad. Provides students with ideas, methods, and materials for teaching adults to read.

EDN 560. Personnel Administration (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop knowledge, skills, and abilities in specification and analysis of roles and role performance, and in selection, supervision, and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures and a variety of simulated personnel related tasks.

EDN 561. Leadership Applications (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop skills and abilities in analysis, initiation establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management communications, information systems, and budgeting. Activities will include lecture discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562. Automation in Administrative and Instructional Practices (3) Prerequisite EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563. Educational Environments (3) Prerequisites: EDN 502, 510, 511, or approval of department. Designed to develop knowledge, skills, and abilities in the analysis design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564. Politics and Policy-Making in Education (3) Designed to study the theories processes, functions, limits, alternatives, goals, and consequences of policy-making as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 565. Curriculum and Instruction in Secondary Subjects (3) Prerequisites: EDN 500, 520, 523 or approval of department. Designed to develop curriculum and instructional skills in the content areas, the course will address generic skills and applications within specific content areas. The student will demonstrate planning and presentation skills in a supervised practicum.

EDN 570. Internship in Educational Administration (3) Prerequisites: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing administrator and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 571. Internship in Educational Supervision (3) Prerequisite: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing supervisor and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 572. Practicum in Reading (3) Prerequisite: EDN 535. Application of understandings of literacy processes and literacy acquisitions to the level of the classroom. Student designs and implements a classroom program based upon a defensible philosophical perspective.

EDN 573. The Disabled Reader (3) Prerequisites: EDN 535, 572. Designed to develop competence and performance in testing teaching, and designing reading/learning programs for the severely disabled reader. Appropriate referral services will be identified. Consultation skills will be developed. Supervised practicum required.

EDN 574. Practicum in Special Education (3) Designed to provide a supervised internship in a cross-categorical special education setting. Provides experiences in diagnosing individual needs, developing educational programs, instructing mildly handicapped students, designing and implementing classroom management techniques, and consulting with teachers, administrators, parents and other professionals.

EDN 575-576. Seminar and Practicum in Early Literacy Intervention (3-3) Prerequisite: Permission of the instructor. Co-requisite: EDN 501, 505, and 556-557. Explores theories of professional development, supervision, and systematic changes and issues affecting early literacy, program development, and teacher learning. Develops skills for implementing, evaluating, and improving literacy intervention programs, including Reading Recovery, and skills in facilitating conceptual change and improving teaching performance. Seminar and practicum experiences extend over two semesters.

EDN 591. Independent Study (3) Prerequisites: 15 semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

EDN 594. Seminar in Education (1-4) Designed to assist the elementary reading or special education graduate student in identifying and synthesizing ideas within and

across courses and formulating reasoned responses to contemporary educational questions.

EDN 595. Special Topics in Education (1-4) Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon approval of the dean of the Graduate School. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599. Thesis in Education (1-6) Prerequisites: EDN 523, at least 18 additional hours toward completion of the master's degree, and permission of instructor. Intensive study of topic selected by student and approval by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

SPECIAL ACADEMIC PROGRAMS

SPECIAL ACADEMIC PROGRAMS

INTERNATIONAL PROGRAMS

The Office of International Programs was established at the University of North Carolina at Wilmington to represent its commitment to international education. The office has responsibility for coordinating area studies programs, faculty and student exchange programs, and other international activities at the university. The goal is to expand and strengthen international ties among individuals, offices, and programs on campus and to encourage the exchange and flow of ideas and information so crucial for the development of global knowledge and awareness. Further information can be obtained by contacting the director of International Programs in Hoggard Hall.

ADMISSIONS - INTERNATIONAL STUDENTS

International students must present evidence of their ability to speak, read, and write the English language and to meet fully the financial obligations associated with their study at the university. Students from foreign countries where English is not the primary language must present the results of the TOEFL examination (Test of English as a Foreign Language) as a part of their application for admission. A minimum score of 550 is required for admission to all programs, but this score does not guarantee acceptance. A financial responsibility statement and proof of accident and hospital insurance must also be submitted.

COOPERATIVE PH.D. IN MARINE SCIENCE

The Graduate School at UNCW cooperates with North Carolina State University in a joint program leading to a Ph.D. in marine science. The degree is awarded by the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University and features opportunities for completing some course work and the dissertation research at UNCW. At UNCW, faculty in chemistry, geology, and the biological sciences participate in the program. Marine science students complete a major and minor field of study and are expected to be familiar with areas of marine science other than their own. Students applying for the program must have previously earned a master's degree in an appropriate natural science at UNCW or other accredited institution.

Specific requirements include: after admission to the program, 15 hours of graduate course work must be completed at NCSU before a student takes the preliminary (qualifying) examination. The examination, which includes written and oral components covering the major and minor areas, shall be conducted at NCSU. At least nine hours of course work shall be completed in residence at UNCW. Each student shall complete three core courses from related areas of marine science; the areas are biological oceanography, chemical oceanography, geological oceanography and physical oceanography. Specific requirements vary with each student's program, but doctoral programs normally require 27 to 36 hours of course work, excluding research and dissertation credits, beyond the master's degree. Residence requirements must be fulfilled by completing 18 credit hours of continuous registration at NCSU. A research-based dissertation in the major area of specialization must be completed and approved, including a successful oral defense of the work. Students are allowed a maximum of six calendar years after admission to attain candidacy and a maximum of 10 calendar years to complete all degree requirements.

Students interested in this program should contact the Graduate School at UNCW for application materials.

EXTENSION COURSES

The Division of Academic Affairs administers the university's extension (academic) program. Through the Contract Extension Program, freshman and sophomore level courses are offered at three community colleges: Bladen Community College in Dublin, NC; Sampson Community College in Clinton, NC; and Brunswick Community College in Bolivia, NC. The community colleges recruit and enroll students who are high school graduates or the equivalent. Students enrolled in the program who wish to become degree candidates at the university must apply and meet regular admission requirements for freshmen or transfer students.

Additional extension offerings also include undergraduate and graduate courses in the field of education at off-campus sites. Utilizing primarily UNCW faculty, these courses may be used to meet the staff development and/or graduate education requirements of local teachers.

Extension registrations are received by the Division of Academic Affairs while requests for transcripts should be sent to the Office of the Registrar of the University of North Carolina at Wilmington.

Further information concerning all extension courses may be obtained by contacting the Division of Academic Affairs.

SCIENCE AND MATHEMATICS EDUCATION CENTER

The Science and Mathematics Education Center at UNCW is a member of the University of North Carolina Mathematics and Science Education Network. The center offers a wide range of professional development programs for inservice middle school and high school mathematics and science teachers. Through center sponsored seminars, workshops, and courses, teachers can achieve initial certification in science or mathematics, renew existing certificates, or earn credit toward a graduate degree.

Information concerning upcoming programs may be obtained by contacting the director of Science and Mathematics Education Center.

GRADUATE FACULTY

GRADUATE FACULTY

Preliminary Listing

Bylaws governing the Graduate Faculty were initiated in 1990 by the Graduate Council and subsequently approved by both the provost and the chancellor. The Bylaws state that the members of the faculty may apply for the Graduate Faculty whenever they meet criteria established by their respective academic units. Hence, the process is on-going, and the list that follows represents only a partial listing of those who ultimately may be appointed to the Graduate Faculty. The list was prepared in keeping with the deadline for the 1992-93 catalogue. A more current listing may be obtained from the Graduate School.

COLLEGE OF ARTS AND SCIENCES

Department of Biological Sciences

Eric George Bolen, *professor of biology,* B.S., University of Maine; M.S., Ph.D., Utah State University.

Paul Edward Hosler, *professor of biology,* B.S., New Paltz State University (New York); M.A., University of Massachusetts; Ph.D., Duke University.

Ronald K. Sizemore, *professor of biology,* B.S., Wake Forest University; M.S., University of South Carolina; Ph.D., University of Maryland.

Daniel Belk Plyler, *professor of biology,* A.B., Pfeiffer College; M.A., Ph.D., University of North Carolina at Chapel Hill.

Department of Chemistry

Sybil K. Burgess, *associate professor of chemistry,* B.S., Meredith College; Ph.D., North Carolina State University.

Charles L. Cahill, *professor of chemistry,* A.B., Oklahoma Baptist University; M.S., Ph.D., University of Oklahoma.

Robert J. Kleber, Jr., *assistant professor of chemistry,* B.S., Cook College, Rutgers University; Ph.D., University of Maryland.

Jack B. Levy, *professor of chemistry,* A.B., Duke University; M.S., Ph.D., North Carolina State University.

Ned Harold Martin, *professor of chemistry,* A.B., Denison University; Ph.D., Duke University.

Pamela J. Seaton, *assistant professor of chemistry,* B.A., University of Washington, Seattle; M.A., University of Alaska, Fairbanks; Ph.D., University of Vermont, Burlington.

Joan D. Willey, *Will S. DeLoach Professor of Chemistry,* B.S., Duke University; Ph.D., Dalhousie University.

Department of Earth Sciences

William Frank Ainsley, Jr., *professor of geography,* A.B., M.A., University of North Carolina at Chapel Hill; M.Div., Southeastern Baptist Theological Seminary; Ph.D., University of North Carolina at Chapel Hill.

William James Cleary, *professor of geology,* A.B., Southern Illinois University; M.A., Duke University; Ph.D., University of South Carolina.

Jack Charles Hall, *assistant professor of geology,* B.S., Grand Valley State College; M.S., University of North Carolina at Chapel Hill; Ph.D., The Ohio State University.

William Burleigh Harris, *professor of geology,* B.S., Campbell College; M.S., West Virginia University; Ph.D., University of North Carolina at Chapel Hill.

Rudolf Hans Kiefer, *assistant professor of geography,* B.A., M.A., University of Heidelberg, Germany; Ph.D., University of Georgia.

Richard A. Laws, *associate professor of geology,* B.A., University of North Carolina at Wilmington; M.A., Ph.D., University of California, Berkeley.

Victor A. Zullo, *professor of geology and adjunct professor of biology,* B.A., M.A., Ph.D., University of California at Berkeley.

Department of English

William D. Atwill, *assistant professor of English,* B.A., University of South Florida; M.A., Florida Atlantic University; Ph.D., Duke University.

Robert H. Byington, *professor of English and folklore,* A.B., Pennsylvania State University; M.A., Lehigh University; Ph.D., University of Pennsylvania.

John P. Clifford, *professor of English,* B.A., St. Francis College; M.A., Ph.D., New York University.

Charles Brooks Dodson, *professor of English,* B.A., DePauw University; M.A., Indiana University; Ph.D., University of Nebraska.

Janet M. Ellerby, *assistant professor of English,* B.S., University of Oregon, Eugene; M.A., California State University, Northridge; Ph.D., University of Washington.

Christopher Gould, *associate professor of English,* B.A., University of Virginia; M.A., Ph.D., University of South Carolina.

Kathleen Haime, *assistant professor of English,* B.S., University of Wisconsin, M.F.A., University of Michigan.

Eleanor McKenna, *assistant professor of English,* B.A., University of California; M.A., Ph.D., University of Michigan.

Kathy Rugoff, *assistant professor of English,* B.A., Syracuse University; M.A., University of Florida; Ph.D., Florida State University.

Jo Ann M. Seiple, *professor of English,* B.S., M.A., Ed.D., East Texas State University.

Lee Schweninger, *associate professor of English,* B.A., University of Colorado; M.A., University of Connecticut at Storrs; Ph.D., University of North Carolina at Chapel Hill.

Barbara F. Waxman, *associate professor of English,* B.A., Douglass College, Rutgers University; M.A., City College of New York; Ph.D., City University of New York.

Michael D. Wentworth, *associate professor of English,* B.A., University of Kansas; M.A., Eastern Michigan University; Ph.D., Bowling Green State University.

Department of History

Bruce L. Kinzer, *associate professor of history,* B.A., Eastern Michigan University; M.A., University of Michigan; Ph.D., University of Toronto.

James Richard Leutze, *professor of history,* B.A., University of Maryland; M.A., University of Miami; Ph.D., Duke University.

Melton A. McLaurin, *professor of history,* B.S., M.A., East Carolina University; Ph.D., University of South Carolina.

Department of Mathematical Sciences

Russell Herman, *assistant professor of mathematical sciences, B.A., Empire State College; M.A., Temple University; M.S.,* Ph.D., Clarkson University.

John K. Karlof, *professor of mathematical sciences,* B.S., State University of New York of Oswego; M.A., Ph.D., University of Colorado; M.S., State University of New York at Stonybrook.

Douglas D. Smith, *professor of mathematical sciences,* B.S., M.A., University of Illinois; Ph.D., The Pennsylvania State University.

Joseph Gea Gue Yan, *assistant professor of mathematical sciences,* B.S., National Cheng-Kung University; M.A., Ph.D., State University of New York-Buffalo.

Department of Philosophy and Religion

James Kevin McGowan, *professor of philosophy and religion,* A.B., Mary Immaculate College; Ph.L., The Catholic University of America; Ph.D., University of Louvain.

Department of Psychology

Carolyn H. Simmons, *professor of psychology,* B.A., Wellesley College; M.A., Ph.D., University of Kentucky.

Department of Sociology and Anthropology

Randy L. LaGrange, *associate professor of criminal justice,* B.S., M.A., University of Toledo; Ph.D., Rutgers University.

Robert Kent Miller, Jr., *professor of sociology,* A.B., Franklin and Marshall College; M.A., Ph.D., Temple University.

Stephen J. McNamee, *professor sociology,* A.B., Rutgers University, Camden, M.A., Ph.D., University of Illinois, Urbana-Champaign.

Cecil L. Willis, *professor of criminal justice,* B.S., East Tennessee University; M.S., East Carolina University; Ph.D., Virginia Polytechnic Institute and State University.

CAMERON SCHOOL OF BUSINESS ADMINISTRATION

Department of Accountancy and Business Law

Robert W. Appleton, *associate professor of accountancy,* B.S., Belmont College; M.B.A., Memphis State University; CPA.

Jack D. Baker, *associate professor of accountancy,* B.A., University of Colorado; M.S., Ph.D., University of Missouri at Columbia; CPA.

Stephen M. Courtenay, *assistant professor of accountancy,* B.A., M.B.A., Ph.D., University of Arkansas, CPA.

Fara M. Elikai, *associate professor of accountancy,* B.S., The Institute of Advanced Accounting-Tehran; M.S., University of Kansas; Ph.D., University of Oklahoma.

Randall Keith Hanson, *associate professor of business law,* B.S.B.A., J.D., University of North Dakota; L.L.M., Southern Methodist University.

Norman R. Kaylor, *professor of accountancy,* B.S., Middle Tennessee State University; M.B.A., Georgia State University; Ph.D., University of Mississippi.

John A. Marts, *professor of accountancy,* B.S., University of North Carolina at Charlotte; M.A.T., Ph.D., University of South Carolina; CPA.

Department of Economics and Finance

Denis G. Carter, *associate professor of economics,* A.B., Boston College; Ph.D., University of Florida.

Ronald E. Copley, *associate professor of finance,* B.A., M.B.A., Old Dominion University; Ph.D., University of South Carolina.

Claude Herman Farrell, III, *professor of economics,* B.S., M.E., Ph.D., North Carolina State University.

William Woodward Hall, Jr., *professor of economics,* B.A., Presbyterian College; M.S., Ph.D., Clemson University.

James D. Harriss, Jr., *assistant professor of finance,* B.B.A., M.B.A., Sam Houston State University; D.B.A., Mississippi State University.

Roger Post Hill, *professor of economics and finance,* B.S., North Carolina State University; M.S., Oklahoma State University; Ph.D., Michigan State University; post-doctoral study, University of North Carolina at Chapel Hill.

Kristin K. Howell, *assistant professor of economics,* B.A., University of North Carolina at Chapel Hill; M.B.A., University of North Carolina at Greensboro; Ph.D., University of Kentucky.

Luther Drew Lawson, *associate professor of economics,* B.S., M.S., Indiana State University; Ph.D., University of Tennessee.

N. Stephen Robinson, *assistant professor of economics,* B.S., M.S., Middle Tennessee State University; Ph.D., University of Oklahoma.

Kevin L. Ross, *assistant professor of economics,* B.S., M.S., Ph.D., Florida State University.

Kevin Joel Sigler, *assistant professor of finance,* B.S., Cornell University; M.B.A., Creighton University; Ph.D., University of Nebraska at Lincoln.

Department of Management and Marketing

Donald R. Latham, *associate professor of management,* B.S., M.B.A., Jacksonville State University; Ph.D., University of Arkansas.

Department of Production and Decision Sciences

John Michael Anderson, *associate professor of management science,* B.S., United States Naval Academy; A.B., University of North Carolina at Wilmington; M.B.A., East Carolina University; Ph.D., North Carolina State University.

Ravija Badarinathi, *associate professor of management science,* B.S., M.S., Allahabad University; Ph.D., University of Georgia.

John M. Garris, *associate professor of management science,* B.A., University of North Carolina at Chapel Hill; M.S., Ph.D., Clemson University.

Richard G. Mathieu, *assistant professor of management information systems; B.S., University of Delaware;* M.S., Ph.D., University of Virginia.

George P. Schell, *associate professor of management science,* B.S., M.A., University of Florida; Ph.D., Purdue University.

SCHOOL OF EDUCATION

Department of Curricular Studies

David Michael Andrews, *associate professor of science education,* B.A., Southern Connecticut State University; M.Ed., Ed.D., University of Maine at Orono.

Grace M. Burton, *professor of education,* A.B., Annhurst College; M.A., Ph.D., University of Connecticut.

Hathia A. Hayes, *associate professor of education,* B.S., M.S., Louisiana Polytechnic Institute; Ed.D., University of Georgia.

Ann Lockledge, *associate professor of education,* B.A., Pomona College; B.F.T., American Graduate School of International Management; M.S.Ed., Hofstra University; Ph.D., Texas A & M University.

Marcee M. Raab, *professor of education,* B.S., Syracuse University; M.Ed., American University; Ph.D., University of South Florida.

Carol Chase Thomas, *associate professor of education,* B.A., University of Kentucky; M.Ed., The Citadel; Ed.D., University of Kentucky.

Eleanor Boyd Wright, *associate professor of education,* A.B., Greensboro College; M.A., State University of New York, College of Geneseo; Ph.D., University of North Carolina at Chapel Hill.

Department of Educational Design and Management

Calvin L. Doss, *professor of education,* B.S., Berry College; M.Ed., University of Georgia; Ph.D., University of North Carolina at Chapel Hill.

Rodney S. Earle, *associate professor of education,* Dip.T., Kelvin Grove Teachers College; B.A., M.Ed., Brigham Young University; Ph.D., Indiana University.

Norman E. Ellis, *associate professor of education,* B.S., M.A., Ball State University; Ph.D., University of North Carolina at Chapel Hill.

Roy Eugene Harkin, *professor of education,* A.B., M.A., Ball State University; Ph.D., Claremont Graduate School.

William Jay Johnston, *associate professor of education,* B.S., Midwestern University; M.A., Memphis State University; Ph.D., University of North Carolina at Chapel Hill.

Robert E. Tyndall, *associate professor of education,* A.B., M.A.T., Ed.D., The University of North Carolina at Chapel Hill.

SCHOOL OF NURSING

Marlene M. Rosenkoetter, *professor of nursing,* Diploma in Nursing, Barnes Hospital School of Nursing; B.A., M.Ed., University of Missouri; M.S.N., East Carolina University; Ph.D., St. Louis University.

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The University
of North Carolina
at Wilmington
601 South College Rd.
Wilmington, NC 28403-3297

Fourth Class
Book Rate

The University of North Carolina at Wilmington

1993-94
Graduate Catalogue

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

GRADUATE CATALOGUE

1993-94

Bulletin 4

The University of North Carolina at Wilmington is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Moreover, the University of North Carolina at Wilmington is open to people of all races and actively seeks to promote racial integration by recruiting and enrolling a larger number of black students.

Questions regarding access to programs following Title VI, Title IX, and Section 504 should be referred to Ms. Patricia Leonard, Interim Compliance Officer, UNCW Chancellor's Office, 601 South College Road, Wilmington, NC 28403-3297, (919) 395-3840; 350-4050 (fax).

Cover by Wilmington, NC artist Gladys Going Faris, who received her degree in art from the University of Georgia. She has exhibited in solo and in group shows where her work has won awards.

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All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of the University of North Carolina at Wilmington.

2,500 copies of this public document were printed at a cost of $4293.00 or $1.72 per copy.

Robert F. Warwick
Chairman
Board of Trustees

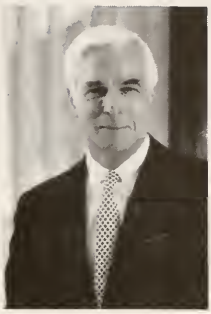
The Board of Trustees at the University of North Carolina at Wilmington are delighted that you have chosen to pursue your graduate studies at UNCW. Our growing graduate programs are evidence of the continuing commitment of the Board of Trustees to provide opportunities for you to pursue your continued education in southeastern North Carolina.

We urge you to enjoy the opportunities that are yours at UNCW. Wilmington offers many different cultural opportunities. Get to know the city and community and you will enjoy your time at UNCW. The faculty and staff at UNCW will provide you with a diverse educational opportunity and learning experience. We are all interested in your success and future growth and development.

Yours very truly,

R. F. Warwick

Robert F. Warwick
Chairman of the Board



Dr. James R. Leutze
Chancellor

As you begin your graduate career at the University of North Carolina at Wilmington, you are entering a challenging time of rigorous academic pursuits. To achieve this level of education, you have already demonstrated scholastic ability and intellectual promise. We welcome your critical thinking and invite you to become a valued member of an intellectual community.

You have chosen an institution where faculty care about students and where students care about building a tradition of academic achievement and research accomplishments. You will learn to love Wilmington with its charm, tradition and access to varied recreational options.

UNCW faculty and staff are vitally interested in your success and are here to help you. I keep regular office hours for students and expect you to come see me if you think I can help, or just to chat.

With all best wishes,

Jim Leutze

James R. Leutze
Chancellor

1993

JANUARY

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CALENDAR OF EVENTS*
1993-94

Fall, 1993

August 9, Monday	Academic year begins
August 14, Saturday	On-campus housing opens for new students only at 10 a.m.
August 15, Sunday	On-campus housing opens for returning students 10 a.m.
August 15-17, Sunday-Tuesday	Orientation and advising
August 18, Wednesday	Registration*
August 19, Thursday	Classes begin
August 25, Wednesday	Last day to add a class or drop without a grade
September 6, Monday	Labor Day holiday
September 8, Wednesday	Convocation
September 9, Thursday	Faculty Meeting
October 13, Wednesday	Fall vacation begins 10:30 p.m.
October 18, Monday	Fall vacation ends 8 a.m.
November 5, Friday	Last day to withdraw with W—graduate students
November 23, Tuesday	Thanksgiving vacation begins 10:30 p.m.
November 29, Monday	Thanksgiving vacation ends 8 a.m.
December 3, Friday	Last day of classes
December 4, Saturday	Reading day/Commencement for July and December graduates
December 6-11, Monday-Saturday	Final examinations
December 13-14, Monday-Tuesday	Final examinations
December 14, Tuesday	Graduation application deadline, spring 1994, graduate students
December 14, Tuesday	Fall semester ends/on campus housing closes 8 p.m.
December 15, Wednesday	On-campus housing closes 10 a.m.

*Contact the Graduate School for additional times for graduate registration.

Spring, 1994

January 5, Wednesday	On-campus housing opens for new students 10 a.m.
January 6, Thursday	Spring semester begins; orientation and advising
January 7, Friday	Registration*/on-campus housing opens for returning students
January 8, Saturday	On-campus housing opens for returning students 9 a.m.
January 10, Monday	Classes begin
January 14, Friday	Last day to add a class or drop without a grade
January 17, Monday	Martin Luther King holiday
March 4, Friday	Spring vacation begins 10:30 p.m.
March 5, Saturday	On-campus housing closes 10 a.m.
March 13, Sunday	On-campus housing opens 10 p.m.
March 14, Monday	Spring vacation ends 8 a.m.
March 29, Tuesday	Last day to withdraw with W — graduate students
March 31, Thursday	Easter vacation begins 10:30 p.m.
April 4, Monday	Easter vacation ends 8 a.m.
April 14, Thursday	Faculty Meeting
April 27, Wednesday	Last day of classes

April 28, Thursday	Reading day
April 29-30, Friday-Saturday	Final examinations
May 2-7, Monday-Saturday	Final examinations
May 6, Friday	Graduation application deadline, summer 1994, graduate students
May 7, Saturday	Spring semester ends
May 8, Sunday	On-campus housing closes at 10 a.m.
May 14, Saturday	Commencement/academic year ends

*Contact the Graduate School for additional times for graduate registration.

Summer I, 1994

May 19, Thursday	On-campus housing opens 10 a.m.
May 20, Friday	Registration*
May 23, Monday	Classes begin
May 24, Tuesday	Last day for registration
May 25, Wednesday	Last day to add a class or drop without a grade
June 10, Friday	Last day to withdraw with W — graduate students
June 21, Tuesday	Last day of classes
June 22, Wednesday	Final examinations/term ends

Summer II, 1994

June 26, Sunday	On-campus housing opens 10 p.m.
June 27, Monday	Registration*
June 28, Tuesday	Classes begin
June 29, Wednesday	Last day for registration
June 30, Thursday	Last day to add a class or drop without a grade
July 4, Monday	Independence Day holiday
July 19, Tuesday	Last day to withdraw with W — graduate students
July 28, Thursday	Last day of classes
July 29, Friday	Graduation application deadline, fall 1994, graduate students
July 29, Friday	Final examinations/term ends
July 30, Saturday	On-campus housing closes

*Contact the Graduate School for additional times for graduate registration.

CALENDAR OF EVENTS
1994-1995

Fall, 1994

August 15, Monday	Academic Year Begins
August 20, Saturday	On-campus housing opens for new students only 10 a.m.
August 21, Sunday	On-campus housing opens for returning students 10 a.m.
August 21-23 Sunday-Tuesday	Orientation and Advising
August 24, Wednesday	Registration*
August 25, Thursday	Classes Begin
August 31, Wednesday	Last day to add a class or drop without a grade
September 5, Monday	Labor Day Holiday
September 8, Thursday	Convocation
September 15, Thursday	Faculty Meeting
October 12, Wednesday	Fall vacation begins 10:30 p.m.
October 17, Monday	Fall vacation ends 8 a.m.
November 11, Friday	Last day to withdraw with W — graduate students
November 22, Tuesday	Thanksgiving vacation begins at 10:30 p.m.
November 28, Monday	Thanksgiving vacation ends at 8 a.m.
December 9, Friday	Last day of classes
December 10, Saturday	Commencement/Reading Day
December 12-17, Monday-Saturday	Final Examinations
December 19-20, Monday-Tuesday	Final Examinations
December 20, Tuesday	Graduation application deadline, spring 1995 — graduate students
December 20, Tuesday	Fall semester ends
December 21, Wednesday	On-campus housing closes 10 a.m.

*Contact the Graduate School for additional times for graduate registration.

Spring, 1995

January 4, Wednesday	On-campus housing opens for new students 10 a.m.
January 5, Thursday	Spring semester begins; orientation and testing
January 6, Friday	Advising and Registration*/on-campus housing opens for returning students 10 a.m.
January 9, Monday	Classes begin
January 13, Friday	Last day to add a class or drop without a grade
January 16, Monday	Martin Luther King holiday
March 3, Friday	Spring vacation begins 10:30 p.m.
March 4, Saturday	On-campus housing closes 10 a.m.
March 12, Sunday	On-campus housing opens 10 a.m.
March 13, Monday	Spring vacation ends 8 a.m.
March 28, Tuesday	Last day to withdraw with W — graduate students
April 13, Thursday	Easter vacation begins 10:30 p.m.
April 17, Monday	Easter vacation ends 8 a.m.
April 20, Thursday	Faculty Meeting
April 26, Wednesday	Last day of classes
April 27, Thursday	Reading Day
April 28-29, Friday-Saturday	Final Examination
May 1-6, Monday-Saturday	Final Examination

May 6, Saturday	Spring semester ends
May 7, Sunday	On-campus housing closes 10 a.m.
May 13, Saturday	Graduation application deadline, summer 1995 — graduate students
May 13, Saturday	Commencement/Academic Year Ends

*Contact the Graduate School for additional times for graduate registration.

Summer I, 1995

May 18, Thursday	On-campus housing opens 10 a.m.
May 19, Friday	Registration
May 22, Monday	Classes begin
May 23, Tuesday	Last day for registration
May 24, Wednesday	Last day to drop a class or withdraw without a grade
June 9, Friday	Last day to withdraw with W — graduate students
June 20, Tuesday	Last day of classes
June 21, Wednesday	Final examination/terms ends

Summer II, 1995

June 25, Sunday	On-campus housing opens 10 a.m.
June 26, Monday	Registration*
June 27, Tuesday	Classes begin
June 28, Wednesday	Last day for registration
June 29, Thursday	Last day to drop a class or withdraw without a grade
July 4, Tuesday	Independence Day holiday
July 18, Tuesday	Last day to withdraw with W — graduate students
July 27, Thursday	Last day of classes
July 28, Friday	Graduation application deadline, fall 1995 — graduate students
July 28, Friday	Final examinations/term ends
July 29, Saturday	On-campus housing closes 10 a.m.

*Contact the Graduate School for additional times for graduate registration.

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Linda Moore, M.Ed. ..... *Director of University Union*
Kathleen Jewell, M.D. ..... *Director of Student Health and Wellness Center*
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Ralph H. Parker, M.Ed. ..... *Director of Minority Affairs*
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Vickie L. Dull, B.S. ..... *Director of Advancement Services*

PUBLIC SERVICE AND EXTENDED EDUCATION

Everard H. Smith, Ph.D. ..... *Assistant Director of Lifelong Learning*

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1992-93

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Dr. Carolyn H. Simmons, Dean, College of Arts and Sciences
Dr. Sybil K. Burgess, Chemistry, term ends August, 1994
Dr. John K. Karlof, Mathematical Sciences, term ends August, 1993
Dr. Alan D. Watson, History, term ends August, 1993
Dr. Lee F. Schweninger, English, term ends August, 1995

Cameron School of Business Administration

Dr. John M. Anderson, Interim Dean, Cameron School of Business Administration
Dr. John M. Garris, Production and Decision Sciences, term ends August, 1994
Dr. Williamm W. Hall, Jr., Economics & Finance, term ends August, 1995

School of Education

Dr. Robert E. Tyndall, Dean, School of Education
Dr. David M. Andrews, Curricular Studies, term ends August, 1994
Dr. Bill J. Johnston, Educational Design & Management, term ends August, 1995

School of Nursing

Dr. Marlene M. Rosenkoetter, Dean, School of Nursing
Dr. Helen S. Faller, term ends August, 1995

Ex-Officio and Non-Voting Members

Dr. James R. Leutze, Chancellor
Dr. Marvin K. Moss, Provost
Dr. John J. Manock, Director of Research Administration
Mr. Eugene W. Huguelet, Director of Library Services

THE UNIVERSITY OF NORTH CAROLINA
Sixteen Constituent Institutions

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Richard H. Robinson, Jr., A.B., LL.B. ..... *Assistant to the President*
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HISTORY OF THE UNIVERSITY

HISTORY OF THE UNIVERSITY OF NORTH CAROLINA

In North Carolina, all the public educational institutions that grant baccalaureate degrees are part of the University of North Carolina. The University of North Carolina at Wilmington is one of 16 constituent institutions of the multi-campus state university.

The University of North Carolina, chartered by the N.C. General Assembly in 1789, was the first public university in the United States to open its doors and the only one to graduate students in the eighteenth century. The first class was admitted in Chapel Hill in 1795. For the next 136 years, the only campus of the University of North Carolina was at Chapel Hill.

In 1877, the N.C. General Assembly began sponsoring additional institutions of higher education, diverse in origin and purpose. Five were historically black institutions, and another was founded to educate American Indians. Several were created to prepare teachers for the public schools. Others had a technological emphasis. One is a training school for performing artists.

In 1931, the N.C. General Assembly redefined the University of North Carolina to include three state-supported institutions: the campus at Chapel Hill (now the University of North Carolina at Chapel Hill), North Carolina State College (now North Carolina State University at Raleigh), and Woman's College (now the University of North Carolina at Greensboro). The new multi-campus university operated with one board of trustees and one president. By 1969, three additional campuses had joined the university through legislative action: the University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington.

In 1971, the General Assembly passed legislation bringing into the University of North Carolina the state's ten remaining public senior institutions, each of which had until then been legally separate: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, the North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This action created the current 16-campus university. (In 1985, the North Carolina School of Science and Mathematics, a residential high school for gifted students, was declared an affiliated school of the university.)

The UNC Board of Governors is the policy-making body legally charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." It elects the president, who administers the university. The 32 voting members of the Board of Governors are elected by the General Assembly for four-year terms. Former board chairmen and board members who are former governors of North Carolina may continue to serve for limited periods as non-voting members emeriti. The president of the UNC Association of Student Governments, or that student's designee, is also a non-voting member.

Each of the 16 constituent institutions is headed by a chancellor, who is chosen by the Board of Governors on the president's nomination and is responsible to the president. Each institution has a board of trustees, consisting of eight members elected by the Board of Governors, four appointed by the governor, and the president of the student body, who serves ex-officio. (The NC School of the Arts has two additional ex-officio members.) Each board of trustees hold extensive powers over academic and other operations of its institution on delegation from the Board of Governors.

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

STATEMENT OF INSTITUTIONAL MISSION

The University of North Carolina at Wilmington is a community of scholars dedicated to excellence in teaching, learning, research, artistic achievement, and service to local and global communities. It is an evolving comprehensive university of moderate size that values close relationships among students, faculty, and staff in a diverse, supportive, and challenging intellectual environment. The institution offers a wide range of undergraduate and master's degree programs, as well as a cooperative doctoral program in marine science. The university's continuing focus is on teaching, expanding basic and applied research activities, and meeting the public service needs of southeastern North Carolina. Founded as Wilmington College in 1947, the university owes much of its development and dynamic character to its heritage and location. The student-centered philosophy of the university comes in part from its origin as a college with small classes and its pledge to continually enhance interactions between students and faculty. With growth, the focus has expanded to include graduate students, bringing increased opportunities for scholarly activities.

As the only public university in southeastern North Carolina, this institution bears a special responsibility for education and service. The university is committed to providing lifelong learning opportunities, assisting with the improvement of public school education, and enhancing the personal, cultural, and economic health of the region. Located in a historic port city, the university provides related experiences in cultural, commercial, and archeological studies. UNCW's proximity to the Atlantic Ocean, its existing marine science programs and its faculty expertise, enhance the state's leadership in marine studies and provide exceptional opportunities to teach and practice environmental awareness and responsibility. The Center for Marine Science Research promotes basic research in oceanography, coastal and wetland science, marine biotechnology and aquaculture, and marine biomedical and environmental physiology. A cooperative doctoral degree in marine science is offered in conjunction with master of science degree programs in marine biology. In addition to its broad commitment to preserving the resources of the coastal environment, the university is also dedicated to the preservation of conservation areas on campus that are representative of ecosystems in the region.

Quality undergraduate education is the cornerstone of the university's instructional activities. Efforts to enroll, retain and graduate students from diverse socioeconomic, geographic, and demographic backgrounds are being expanded. The university seeks to stimulate in its students intellectual curiosity, ethics, imagination, rational thinking, thoughtful expression, and a love of learning. Knowledge of the humanities, social and natural sciences, and fine arts, along with effective communication and decision-making skills are central to the curriculum. Students are encouraged to develop an understanding of their own and other cultures in order to appreciate the rich variety of thought and lifestyles that form the world in which they live. The university offers programs to help students clarify values, develop physical well-being, work independently and interdependently, and participate in university governance. The university is committed to providing each student with opportunities, resources, and guidance to achieve personal, academic and career goals.

Excellence in teaching and creative scholarly activity are fundamental for any university. To meet the challenges that a diverse campus community brings, faculty are given increasing opportunities and resources to enhance instructional skills. Superior teachers are recognized

for their efforts and serve as role models for others in the profession. The pursuit of knowledge and understanding complements effective teaching, sustains intellectual vitality, and is an important contribution to the larger community. Research and artistic endeavors are essential for faculty and students. The university encourages and supports scholarly work and seeks to attract energetic faculty with diverse interests and expertise. The university provides a secure intellectual, social, and physical environment conducive to achieving its mission. Freedom of thought, expression, and association are fostered and protected.

The continuing development of students, faculty, and staff, as well as the maintenance and development of academic and social programs of excellence, are ensured with funds from both public and private sources. Ongoing planning and assessment of services, programs, research, and instruction assure the productive use of resources and assets.

In its public service role, UNCW seeks to be a leader in initiating and coordinating programs that address the special needs of its service region. UNCW has served as a resource and catalyst for regional planning and development activities for more than two decades. The university continues to demonstrate its commitment to improving the quality of life in the region and state through strong partnerships with educational, governmental, cultural, health, and business communities. The Cameron School of Business Administration has established both the Center for Business and Economic Services, which provides information and consultation services to local businesses, and the Small Business Institute, which provides opportunities for field studies in local firms by teams of senior level undergraduate. The campus also houses the Small Business Technology and Development Center which is part of a state-wide effort to assist in the development of small businesses. The School of Education, through its Consortium for the Advancement of Public Education (CAPE), has created excellent professional ties with all the public school agencies in the southeastern region of the state. These ties are enhanced by the Science and Mathematics Education Center, a joint venture of the College of Arts and Sciences with the School of Education. Yet the expanding and changing population of southeastern North Carolina, coupled with accelerated economic growth, places new and increased demands on the university and the region. Regional issues being addressed include responsible economic development, the increase in the retired and elderly population, and the need to reform public elementary and secondary education.

The university remains committed to planned growth, quality programs, and a strong sense of community. The evolution of the university will involve strengthening and expanding

- undergraduate education,
- marine science and marine-related activities,
- research, graduate, and professional programs,
- interdisciplinary programs,
- public service,
- international exchange programs for students and faculty,
- involvement in multicultural, social, environmental, and global issues of current and emerging importance,
- instructional and research resources, and
- campus facilities to meet educational, social, and recreational needs.

Through the activities of its students, faculty, and staff, the University of North Carolina at Wilmington seeks to educate and interact with the diverse community it reflects and serves. The university shall strive, through regular communication with regional agencies and through a continual assessment of programs, to meet the needs of southeastern North Carolina. Fulfilling this mission strengthens the position of the university within the world academic community.

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of the University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the academic year 1946-47. In 1947, a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Education. In 1948, Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952, the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958, New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree. By vote of the Board of Trustees of the University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, the University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of the University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus

the University of North Carolina now comprises 16 institutions. On August 22, 1977, the Board of Governors of the University of North Carolina authorized the University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

In the spring of 1985, the Board of Governors of the University of North Carolina elevated the University of North Carolina at Wilmington to a Comprehensive Level I University.

The programs offered by the university include four-year programs leading to the Bachelor of Arts and Bachelor of Science degrees within the College of Arts and Sciences, the Cameron School of Business Administration, the School of Education, and the School of Nursing; graduate programs leading to the Master of Education, the Master of Science, the Master of Arts, the Master of Arts in Teaching, and the Master of Business Administration degrees; a variety of pre-professional programs; and special programs in a variety of areas, including marine science research and continuing education.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the bachelor's and master's level; and the North Carolina Association of Colleges and Universities. The School of Education is accredited by the National Council for Accreditation of Teacher Education. The university also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support of Education, and is on the list of schools approved by the American Chemical Society. The School of Nursing is accredited by the National League for Nursing. The Parks and Recreation Management Curriculum is accredited by the National Recreation and Parks Association/American Association for Leisure and Recreation.

THE FACULTY

The university seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 412 instructional and research faculty, more than 67 percent hold doctoral degrees.

STATEMENT ON DIVERSITY IN THE UNIVERSITY COMMUNITY

In an effort to address the needs of the total university community, the chancellor has endorsed the following statement of principle proposed by the Human Relations Advisory Committee.

As an institution of higher learning, the University of North Carolina at Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity. Accordingly, the university supports policies, curricula and co-curricula activities that encourage understanding of an appreciation for all members of its community and will not tolerate any harassment of or disrespect for persons because of age, sex, color, race, religion, creed, national origin, sexual preferences, political belief or affiliation, handicap, veteran status, marital status, or membership in any organization.

For more information concerning the ways that our multicultural learning community may be nurtured and protected, contact the Human Relations Committee through the offices of the Chancellor or the Dean of Students.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of the University of North Carolina at Wilmington, in recognition of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

Recipients

1978 B. Frank Hall
1979 Frank Allen
1980 Steve Harper
1981 Gerald Shinn
1982 William F. Adcock (posthumously)
1983 Betty Jo Welch
1984 Anne B. McCrary
1985 Charles Richard Ward
1986 John H. Haley
1987 Saul Bachner
1988 C. Sue Lamb
1989 W. Lee Johnston
1990 C. Sue Combs
1991 Grace M. Burton
1992 Timothy A. Ballard

THE UNCW AWARD FOR FACULTY SCHOLARSHIP

The UNCW Award for Faculty Scholarship is designed to underscore this institution's continuing commitment to scholarship and creative work. Recipients of the award shall stand out among the faculty as persons who have made, and continue to make, a significant contribution to the university and the academic community through their commitment to scholarship, research, and creativity.

Recipients

1990 Donald F. Kapraun
1991 J. Mark Galizio
1992 John Clifford

THE FOUNDATION CHAIR

The Foundation of the University of North Carolina at Wilmington is a charitable, nonprofit corporation established for the sole purpose of supporting the university. Through private donations it supports a faculty chair, designated to assist the university in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the university to bring to this campus renowned scholars and performing artists. In filling the chair a special effort is made to select individuals whose contributions will benefit not only the university, but also the community at large.

THE CAMPUS

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 661-acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River and is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 118,000. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness to the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities.

The spacious well-landscaped campus was first occupied by the university in 1961. The number of buildings has increased from three in 1961 to 70 today. There are several athletic fields and ample space for parking.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the dining hall and residence halls, are completely air-conditioned.

Edwin A. Alderman Hall, which houses administrative offices, is named in honor of a native Wilmingtonian who served as president of the University of North Carolina, the University of Virginia and Tulane University.

Hoggard Hall, an academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the School of Nursing, laboratories, the Computing Center, Institutional Research, Research Administration, and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the departments of fine arts and communication studies. It contains classrooms, faculty offices, art and music studios, the musical library, and electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

Will S. DeLoach Hall houses the departments of chemistry and physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and laboratories for the physical sciences.

Friday Hall, named in honor of UNC President Emeritus William C. Friday and his wife, Ida, was completed in 1974. It houses the departments of Biological Sciences and Earth Sciences and contains classrooms and laboratories.

Arnold Kimsey King Hall houses the School of Education and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory.

Isaac Bear Hall, completed in 1972, contains the Graduate School and the Department of Mathematical Sciences.

Cameron Hall, occupied in 1988, houses the Cameron School of Business Administration.

Morton Hall, named for Margaret Shannon Morton, was completed in October 1978 and houses the departments of English, history, and modern languages. The building contains classrooms, seminar rooms, and the Bryan Auditorium which seats 200.

The Social and Behavioral Sciences Building was completed in 1980. It houses the departments of Psychology, Philosophy and Religion, Political Science, and Sociology/Anthropology, as well as some offices of the campus computing center.

The Sarah Graham Kenan Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium also is equipped for use as a theatre and contains seminar rooms for the Department of Fine Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of all students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000-seat coliseum as well as an olympic-size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

The University Union is the "living room" of the university community. It houses a wide variety of services, student and administrative offices, while providing space for campus activities and meetings.

The University Center, opened in 1991, provides supplementary space to the University Union operation. In the building are housed the post office, the game room, a food facility and coffee house, the Office of Human Resources, and a large multi-purpose room which can be divided into as many as three smaller spaces. Areas of the multi-purpose room will be available to the university community and the community at large for meetings and conference proceedings, etc.

Hinton James Hall, named for a New Hanover County resident who was the first student to enroll at the University of North Carolina, houses the Financial Aid Office, Registrar Services, Undergraduate Admissions, Cashier, and the office of the dean of the College of Arts and Sciences.

The University Student Support Center opened in the summer of 1985. Centrally located adjacent to the University Union, it houses the University Bookstore.

Wagoner Dining Hall opened in 1989, providing space for food service for students and faculty. This facility, along with two other food service facilities, contains modern food service equipment which allows for many different food and catering services. It also houses a special purpose meeting and dining facility known as Madeline Suite.

Westside Hall houses Student Health Services and the Student Development Center as well as the Division of Public Service.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student residence hall, named in honor of Addison Hewlett, Jr., opened in the fall of 1978. Another residence hall for 220 students, Frederick B. Graham Hall, was occupied in the fall of 1979. Schwartz Hall opened in the fall of 1985 for an additional 160 students. Suite housing for 400 students opened in the fall of 1989.

WILLIAM MADISON RANDALL LIBRARY

The William Madison Randall Library constitutes a vital instructional and research resource of the University of North Carolina at Wilmington. Named for the president emeritus of Wilmington College, the library, recently enlarged and completely renovated, provides seating for over 950 users and will accommodate a collection of 450,000 hardbound volumes in addition to various other collections of informational resources.

The library now contains more than 380,000 hardbound volumes and subscribes to some 4,890 serial titles. Extensive journal backfiles are maintained in bound volumes and in microformat. A large audiovisual collection containing resources in several formats is conveniently located on the first floor, and a 73-seat auditorium is equipped for various types of audiovisual use.

Rare and unique items are housed in the Helen Hagan Rare Book Room. An online catalog and circulation system provides easy, efficient access to most of the library's collections.

The library is a partial depository for United States government publications, and the collection now consists of more than 450,000 items in hardcopy and microtext. The library is a full depository for North Carolina documents. These materials are readily available to all of the library's users. The library also houses the Curriculum Materials Center, a specialized facility designed to support the teacher education program of the School of Education.

Maintaining a schedule of more than 98 hours per week during the regular academic sessions, the library has established as its major goal the provision of an excellent program of services designed to facilitate and encourage maximum use of informational resources.

HERBERT BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Herbert Bluethenthal Memorial Wildflower Preserve is a tract of approximately 10 acres set aside on the campus by the university's Board of Trustees in response to a donation by Mrs. Herbert Bluethenthal of Wilmington. The preserve includes a wide variety of plant communities, marked trails to follow, and labeled plants to observe. It is dedicated to the preservations of the rich and varied flora of southeastern North Carolina and has been designed to provide a place of contentment and pleasure for those who enjoy and appreciate our native plants.

COMPUTING SERVICES

General academic computing support for student course-related instruction and research is provided through both terminal access to the central facility Digital Equipment VAXcluster computer systems and several microcomputer clusters located throughout the campus. The central computer facility is complemented by several workstations and a SEQUENT Balance B8 parallel-processor system running the UNIX operating system in the Department of Mathematical Sciences; a complex of microcomputers in the Cameron School of Business Administration; and specialized use microcomputers in the areas of English, social sciences, biology, nursing, physics and earth sciences.

The central VAXcluster operates under the VAX/VMS operating system and supports such general use compilers and processors as COBOL, BASIC, PASCAL, PL/1, ADA, C, LISP, FORTRAN, a spreadsheet, wordprocessor, and statistical analysis and graphics packages including SAS and SPSS. Terminal emulation software is available for microcomputer interface to the VAXcluster.

A campus-wide data network provides access to the on-campus systems, Randall Library on-line public access catalog system, and a campus-wide information system. A variety of special equipment such as laser printers and plotters is available for general use.

The university is connected to BITNET, a communications network of institutions of higher education and research centers in the U.S.A., Canada, Europe and Asia; and Internet, a network of networks including NSFnet. Access to BITNET and Internet is available for authorized university-related activities.

The CRAY Y-MP supercomputer located at the North Carolina Supercomputer Center, Research Triangle Park, N.C., is available to faculty and graduate students for appropriate and approved projects. Access to the supercomputer is through the UNCW data network.

The intent is to provide all students maximum access to state-of-the art computing. Students must establish a user account to utilize the central VAXcluster and must abide by the rules and policies for use of the facilities including microcomputers.

Contact Academic Computing Services for information on academic computing facilities and services.

DIVISION FOR PUBLIC SERVICE AND EXTENDED EDUCATION

Edward Kidder Graham, one of North Carolina's foremost educators, once observed that the boundaries of the university should be the borders of the state. As a regional university, UNCW is committed to a leadership role in helping southeastern North Carolina address regional issues and facilitate regional development.

The Division for Public Service and Extended Education is the external affairs arm of the university, with responsibilities for human resource, economic, cultural, and community development in a 16-county service area. Its activities include public service programs, coordination of regional planning, development of the campus and regional interactive video capacity, initiation of efforts to enhance technology development, opportunities for lifelong learning, leadership training, environmental education programs, small business development, and other outreach events not located within an existing school or discipline. In addition, it assists community groups whose activities coincide with the mission of the university by scheduling the use of campus facilities for meetings, seminars, and conferences.

PUBLIC SERVICE PROGRAMS

In cooperation with other units of the university and with community organizations, the division hosts forums, conferences, and institutes that promote public awareness of issues, community leadership, and technological development as well as economic progress. Many of these activities are open to the public free of charge.

The Southeastern Network for Economic Development, a regional planning program, brings leaders together from a 16-county service area to plan regional strategies for the future.

A fiber optics classroom with full interactive capacity is located in Randall Library. Vision Carolina, an educational partnership network, links the university with Cape Fear Community College, New Hanover Regional Medical Center, New Hanover High School, and John T. Hoggard High School. This consortium offers distance learning courses and other interactive community programs for academic and non-academic credit. Through its connection to the MCNC-CONCERT network, the university can access educational and professional programs from across the state and nation.

PERSONAL DEVELOPMENT PROGRAMS

The Division for Public Service and Extended Education offers a wide variety of programs designed to provide both traditional and non-traditional students with opportunities for lifelong learning. Many of these programs are offered through the nationally recognized Continuing Education Unit (CEU) system for non-academic credit, which provides one CEU for every 10 hours of class time. Some in-service courses are designed for school teachers, with renewal credit issued by the North Carolina Department of Public Instruction. The division is receipt-supported and must charge a fee for most of its offerings.

Programs for the general public include lectures, discussion groups, seminars, and short courses. Recent topics included art, history, photography, foreign languages, home care, and health.

State, national, and international travel opportunities are also offered. In the spring and fall, the division sponsors Elderhostel, an international program for older adults and draws participants from all over the United States and the world.

Youth courses offer enrichment for participants aged seven to 18. These include workshops on improving academic performance as well MarineQuest, which includes the Summer Science Day Camp, Coast Trek, Coast Trek International, and OceanLab programs.

PROFESSIONAL DEVELOPMENT AND LEADERSHIP PROGRAMS

The division designs specific professional training programs for local schools, businesses, and industries. University faculty and other qualified individuals provide instruction in topics such as accounting, communications, management, planning, real estate appraisal, small business administration, management and employee assistance program training. Courses for school teachers and administrators are designed to provide ongoing professional improvement or to meet certification and renewal requirements. The division welcomes inquiries from individuals or organizations interested in implementing a training program for their employees. The division provides management of professional training by contracting with the business, industrial, government, and educational sectors.

FACILITIES SCHEDULING

In support of its mission as a public institution of higher learning, UNCW encourages the use of its facilities by community groups whose work is compatible with, or supplementary to, its educational purpose. Subject to academic priorities, campus facilities may be available for occasional meetings or activities.

A policy statement and current list of user charges for the use of indoor or outdoor space is available for inspection. These user charges are designed to cover the expense of providing the facility. Depending on special needs, particular uses may require the assessment of additional charges. The costs of any damage resulting from the use of the facility shall be borne by the organization using it.

Conference hosting coordination is available for groups whose mission coincides with that of the University of North Carolina system. The division places special emphasis on recruiting non-profit groups with a training or educational purpose. Such conferences may range in size from 20 to 800 people, may be credit or non-credit in nature, and may last for one day or for several weeks. Available services include marketing, registration, housing accommodations, and catering.

INFORMATION

Further information concerning the Division of Public Service and Extended Education or any if its activities may be obtained by contacting the vice chancellor.

CENTER FOR MARINE SCIENCE RESEARCH

The Center for Marine Science Research at the University of North Carolina at Wilmington is dedicated to providing an environment that fosters a multidisciplinary approach to questions in basic marine research. The mission of the center is to promote basic and applied research in the fields of oceanography, coastal and wetland studies, marine biomedical and environmental physiology, and marine biotechnology and aquaculture. Faculty members conducting marine science research in the departments of Biological Sciences, Chemistry, and Earth Sciences participate in this program.

The center fosters research programs of the highest quality and thereby enhances the educational experience provided by the University of North Carolina at Wilmington for both undergraduate and graduate students in marine science.

The center's primary facilities are located on a four-acre tract near the Intracoastal Waterway at Wrightsville Beach.

Encompassing 20,000 square feet, these facilities house 15 research laboratories, various science and administrative offices, a video equipment/editing room, a fully equipped machine tool shop, an aquatic specimens holding room, a seminar/conference room and a USDA-licensed animal facility. Additional laboratory space is available for research requiring constant flow-through seawater.

The center maintains eight research vessels ranging in size from 13 to 22 feet and specialized equipment including a Superphantom Remotely Operated Vehicle, a low temperature aquarium room, an atomic absorption spectrophotometer, and an extensive microscopy capability including transmission electron, inverted, phase-contrast, and confocal tandem scanning.

The Center for Marine Science Research serves as host for the NOAA sponsored National Undersea Research Center for the Southeastern United States. Based upon competitive proposals, NURC annually supports fisheries management, ocean-floor processes, and other research projects from the Gulf of Maine to the Gulf of Mexico.

The headquarters for the North Carolina National Estuarine Research Reserve is located at the Center for Marine Science Research through a cooperative agreement with the N.C. Division of Coastal Management. The NCNERR program manages four estuarine reserve sites as natural laboratories and coordinates research and education activities. The four sites, Zeke's Island, Rachel Carson Island, Currituck Banks, and Masonboro Island represent biologically diverse, highly productive estuarine systems composed of uplands, intertidal wetlands, and open waters.

STUDENT AFFAIRS

STUDENT AFFAIRS

The basic mission of the Division of Student Affairs is to encourage student use of personal, institutional, community, and other resources toward the goals of individual development, self- fulfillment, and a responsible citizenship. Its programs and services are directed toward assisting students in their educational and personal development

OFFICE OF THE DEAN OF STUDENTS

The Office of the Dean of Students serves as the primary focal point for addressing student needs, issues and concerns, and serves as a resource and referral office for all faculty, staff and students. Acting in an advocacy role, the dean and assistant dean of students represents the student perspective to the university community. This office works with all segments of the university to help students develop through opportunities, advice and assistance. Within the Student Affairs Division, the Office of the Dean of Students provides consultation, new program development and assistance to the vice chancellor with special projects. Specifically, the office advises the Greek Life program; publishes the Student Handbook and Code of Student Life; administers the student judicial system, including violations of the Academic Honor Code; assists the Office of Federal Compliance in processing cases of discriminatory personal conduct, including sexual harassment; and serves as the university liaison to the Council of Ministries. Additionally, the Office of the Dean of Students coordinates programs and policy on rape prevention and assistance, substance abuse education and prevention, and implements developmental programs to meet assessed and perceived student needs. The Office of the Dean of Students also provides supervision for the ALTERNATIVES! (the Substance Abuse Education and Prevention Program), and the Office of Recreation and Intramural Programs.

ALTERNATIVES!

The ALTERNATIVES! program is responsible for providing a systematic and comprehensive set of services for substance abuse education and prevention to all segments of the university community. The center serves as a highly visible and accessible multi-media resource area containing drug education materials, as well as information on alternatives to drug use. Personal growth and self-concept enriching experiences are provided to students through alternative learning opportunities. The center serves as a clearinghouse for other campus and community resources and provides consultation, information, or referral as appropriate.

Additional educational opportunities for the entire campus are offered as needed. The terms "substance" and "drug" are intended to include all psychoactive chemicals including alcohol, stimulants, depressants, opiates, and hallucinogens.

OFFICE OF RECREATION AND INTRAMURAL PROGRAMS

The Office of Recreation and Intramural Programs organizes and administers a variety of recreational services that are either structured or self-directed, and enhance the overall wellness of the campus community. The primary goal of the program is to meet the recreational needs of all populations on campus by enhancing the physical, cognitive, and social domains of the participants. This goal is accomplished by offering a wide variety of recreational activities, conducting educational workshops, and giving professional training to the student employees. The office provides a multi-faceted program of intramural sports, fitness programs, and special events.

Discover Outdoor Center

The Discover Outdoor Center, located in the University Center, provides opportunities for leadership development and learning group skills as well as environmental awareness, personal growth, and a sense of community through educational outdoor adventure programming. Also, outdoor equipment is available for a minimal rental fee for personal trips.

UNIVERSITY UNION

The University Union department exists to provide support and give direction to out-of-classroom learning. Based on the philosophy that the process of learning is not confined to the classroom, but instead is a constant and ongoing process, the mission of this department is to facilitate the educational process by providing a laboratory experience for student growth, and an arena for the development of cultural, social, and recreational awareness. This is accomplished through the administration of the University Union and University Center facilities, programs and services, providing resources to student leaders and organizations, and serving as the campus's central point of reference in regard to student activities and organizations.

STUDENT DEVELOPMENT CENTER

The Student Development Center provides confidential individual and group counseling for personal, social, career or educational concerns. Decision-making resources for careers and college majors include a computer guidance system, interest testing, and an information library. Special assistance is offered with learning strategies, study, reading and exam-taking skills.

Workshops are regularly scheduled on these topics as well as on personal growth, communication skills and stress management. As part of the university substance abuse education and prevention program, the center also provides a substance abuse assessment, referral and treatment for students.

The center acts as a clearinghouse for disabled students' concerns and assists with tutoring, equipment and advocacy needs. The office also administers national testing programs such the GRE, GMAT, NTE, MAT, and LSAT.

Consulting and referral services are provided by the center's staff for university faculty, staff and student groups.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center provides career planning and placement services to students and alumni of UNCW.

Assistance in developing career plans is available through individual advising, workshops and seminars. The office also provides information and counseling on careers, specific job requirements, employers, and graduate school programs. Students are encouraged to use these services early in their college career.

The office publicizes specific job openings (part-time, summer and full-time); makes individual referrals; schedules recruiting visits; maintains company recruiting literature; and provides information about public and private schools, and state and federal government opportunities.

Seniors should register with the Career Planning and Placement Center in their junior or early in their senior year to establish a credentials file and to avail themselves of all placement services including resume writing, interviewing skills and job search training.

HOUSING AND RESIDENCE LIFE

The Office of Housing and Residence Life is responsible for the development of educational, cultural and social programs to enhance student life on campus. The goal of the Housing and Residence Life program is to create an environment conducive to academic pursuits and personal grwoth of resident students. Over 45 Residence Life staff are responsible for the supervision of resident students in the residence halls, on-campus apartments, and suite-style buildings. The university has residence hall facilities for approximately 1,900 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished. Laundry facilities are located in each residence area. The Residence Life program offers opportunities for student employment, leadership positions through hall governance, and services of an eleven acre recreation field. Students living on campus are required to participate in the university dining hall program.

FOOD SERVICE

The UNCW Food Service operation is committed to providing quality food products served in clean and comfortable facilities. The program is available to all students, faculty, and staff seven days a week when classes are in session. Wagoner Dining Hall, built in 1989, is a modern 600-seat facility that serves unlimited seconds on every meal. Cash operations include: The Hawk's Nest, located in the University Union; Center Stage Cafe, located in the University Center; a pizza deliverly program, and a convenience store located in Apartment Building M.

Information about commuter student meal plans is available at the Food Service Office in Wagoner Hall (395-3178).

STUDENT HEALTH AND WELLNESS CENTER

The Student Health and Wellness Center (SHWC), located in Westside Hall, is open 8:30 a.m to 5:00 p.m., Monday through Friday. For urgent care after 5:00 p.m. during the week and all weekend, a practioner is on call to provide information and or referral.

The Student Health and Wellness Center (SHWC) provides diagnosis and treatment of general and acute medical problems. The health fee is part of the student fee and entitles students taking three or more credit hours* (living on or off campus) to health care services.

In addition to the treatment of general medical problems, the scope of services include: laboratory testing to diagnose a variety of medical problems, allergy injections, gynecologic examination and counseling, weight control and nutrition counseling, smoking cessation, crisis intervention, and referral as indicated. The Student Health and Wellness Center does not issue excuses for class absences due to illness.

Each newly admitted UNCW student is required to submit to the SHWC prior to enrollment a complete and up to date Immunization Record required by the N.C. Immunization Law (General Statues 130A-152).

FAILURE TO COMPLY WITH IMMUNIZATION LAW WILL RESULT IN ADMINISTRATIVE WITHDRAWAL FROM ALL CLASSES.

*Students taking less than three hours will be entitled to health care services upon payment of the health fee and will be required to have the above forms on record.

Student Health Insurance

The student health fee covers most medical care given at the Student Health and Wellness Center on a prepaid basis. The health fee will not cover the costs of a student who requires hospitalization or specialty care. It is strongly recommended that students who are not covered for major medical expenses (serious injuries due to accidents or hospitalization) under their family health insurance contact the SHWC or the Office of the Dean of Students for information and forms regarding the Student Group Health Insurance Plan available at a nominal cost through the university.

LIVWELL CENTER FOR HEALTH PROMOTION

The LivWELL Center for Health Promotion is committed to fostering a campus community that encourages and supports healthier lifestyle choices. As the wellness outreach program of the Student Health and Wellness Center, the LivWELL Center provides an informal setting where a variety of wellness resources can be used. These include drop-in services for self care opportunities including blood pressure checks, nutritional assessments, weight scales, a video-resource library and individual consultations on lifestyles issues and concerns. LivWELL serves as a site for student work opportunities and sponsors regular seminars and campus-wide health promotion events throughout the year.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington routinely has made public certain information about its students. Typically, UNCW releases the names of students who are selected by the various honorary societies, receive scholarships, make the Dean's List, hold offices, or are members of athletic teams. The annual commencement program publishes the names of persons who have received degrees from UNCW during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following information: the students name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The university will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing.

Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration thereafter.

STUDENT CONDUCT

The filing of an application of admission shall be construed as both an evidence and pledge that the applicant accepts the standards and regulations of the University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, is obligated to obey all rules and regulations of the university as stated in the *Student Handbook and Code of Student Life*, the university catalogue and other university publications. The university reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

A policy statement was adopted by the Board of Trustees of the former consolidated University of North Carolina on October 26, 1970. It is set forth in Chapter V of the Code Provisions Governing the University of North Carolina, and is set forth in full in the *Student Handbook and Code of Student Life.*

POLICY STATEMENT ON ILLEGAL DRUGS

Students, faculty members, administrators, and other employees of the University of North Carolina at Wilmington are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or manufacture those drugs designated collectively as "controlled substances" in Article 5 of Chapter 90 of the North Carolina General Statues. A copy of this law is available in the following offices: Human Resources, Dean of Students, and Academic Affairs. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW.

In accordance with policy adopted by the Board of Governors of the University of North Carolina and the Board of Trustees of UNCW, disciplinary proceedings against a student, faculty member, administrator, or other employee will be initiated when the alleged conduct is deemed to affect the interests of UNCW., Penalties will be imposed for violation of the policies of UNCW only in accordance with procedural safeguards applicable to disciplinary actions against students, faculty members, administrators, and other employees. The penalties that may be imposed range from written warnings with probationary status to expulsions from enrollment and discharges from employment. For more information, please refer to the Code of Student Life, The Code of the University of North Carolina (Section 603) and Personnel Procedure No. 610.

Every student, faculty member, administrator, and other employee of UNCW is responsible for being familiar with, and complying with, the terms of the policy on illegal drugs adopted by the Board of Governors of The University of North Carolina and the Board of Trustees of UNCW. Copies of the full text of the policy appear below as well as in the Code of Student Life, Faculty Handbook, and it is available in the Office of Human Resources.

Policy On Illegal Drugs

Introduction

The fundamental purpose of the University of North Carolina at Wilmington (UNCW) is to maintain an environment that supports and encourages the pursuit and dissemination of knowledge. That environment is damaged by illegal drug use. Therefore, all members of the academic community, students, faculty members, administrators, and other university employees, share the responsibility for protecting the environment by exemplifying high standards of professional and personal conduct.

Policy and Program

A. The illegal use, possession, sale, delivery and/or manufacture of drugs will not be tolerated and may be grounds for immediate suspension or dismissal of students, faculty members, administrators and other university employees.

B. UNCW policies and programs are intended to emphasize:
   1. The incompatibility of the use or sale of illegal drugs with the goals of the university.
   2. The legal consequences of involvement with illegal drugs.

3. The medical implications of the use of illegal drugs.
4. The ways in which illegal drugs jeopardize an individual's present accomplishments and future opportunities.

C. UNCW will provide a systematic substance abuse education and prevention program designed to reach all segments of the campus community. To assist in accomplishing this mission, the Center for Substance Abuse Education and Prevention is developing a well-integrated centralized program that is a focal point for campus substance abuse education, training and prevention, and will monitor the effectiveness of programs for constituencies served. This center provides substance abuse counseling and referral services on campus and in the external community. It also provides consultative services to offices and agencies in the university environment and collaborates with the Employees Assistance Coordinator in the university's Office of Human Resources to develop counseling and referral services for faculty and staff desirous of seeking assistance off-campus. This UNCW policy is presented within the four areas of education, counseling and rehabilitation, enforcement and penalties, and assessment.

Education

A. Provide a system of accurate, current information exchange on the health risks and symptoms of drug use for students, faculty and staff.

B. Promote and support institutional activity programming that discourages substance abuse.

C. Establish collaborative relationships between community groups and agencies and the institution for education, treatment and referral.

D. Provide training programs for students, faculty, and staff to enable them to detect problems related to drug use, and to refer persons with these problems to appropriate assistance.

E. Include information about drugs for students and family members in the student orientation programs. The use of prescription and over-the-counter drugs will be addressed.

F. Support and encourage faculty in incorporating education about drugs into the curriculum where appropriate.

G. Develop a coordinated effort across campus for drug-related education, treatment and referral.

Counseling and Rehabilitation

A. UNCW provides information about drug counseling and rehabilitation services available to members of the university community. Persons who voluntarily avail themselves of university services can be assured that applicable professional standards of confidentiality will be observed. Counseling and rehabilitation services include:
1. Provision of training for professional staff and student staff on drug abuse information, intervention and referral.
2. Conducting education programs for students who have demonstrated abusive behavior with drugs.
3. Conducting individual and group counseling for members of the university community with drug problems.
4. Conducting drug abuse assessments.

5. Coordinating referral and follow up of campus individuals and developing a referral and follow up mechanism in collaboration with the employee assistance coordinator in the Office of Human Resources.
6. Organizing campus self-help groups.
7. Providing consultation, information and referral for students, staff and faculty with drug problems.
8. Designing and developing referral opportunities for members of the university community who desire to seek professional assistance beyond the campus. This will be done in cooperation with the employee assistance coordinator in the Office of Human Resources.
9. Providing with peer involvement a system of intervention and referral services for students, faculty and staff.

B. In providing the above prevention strategies, it is recognized that some campus constituents may prefer professional assistance external to the campus. The campus community substance abuse education and prevention program coordinator will collaborate with the employee assistance coordinator in the development of appropriate referral mechanisms for these individuals. A listing of off campus resources for assistance and referral will be made available for those who choose that option. In the development of this program, it is desired that faculty, students, administrators and other employees be comfortable in the manner in which they are served and have a choice in the selection of appropriate assistance. Individuals served in the counseling program on campus can be assured that confidentiality will be maintained and that they will be served by professionals.

Enforcement and Penalties

A. Enforcement In seeking to enforce established university policy, the University of North Carolina at Wilmington will:
1. Publicize all drug policies.
2. Consistently enforce drug policies.
3. Exercise appropriate disciplinary action for drug policy violations.

B. Penalties

UNCW shall take actions necessary, consistent with state and federal law and applicable university policy, to eliminate illegal drugs from the university community. University policy on illegal drugs will be publicized in the university catalogue, student and faculty handbooks, student orientation materials, letters to students and parents, residence hall meetings and faculty and employee meetings.

Students and faculty members, administrators, and other employees are responsible as citizens for knowing about the complying with the provisions of the North Carolina law that makes it a crime to possess, sell, deliver, or manufacture drugs designated collectively as "controlled substances" in Article V, Chapter 90 of the North Carolina General Statutes. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. It is not "double jeopardy" for both the civil authorities and the university to proceed against and punish a person for the same specified conduct. The university will initiate its own disciplinary proceedings against the student, faculty member, administrator, or other employee when the alleged conduct is deemed to affect the interest of the university.

Penalties will be imposed by UNCW in accordance with procedural safeguards applicable to disciplinary actions against students (see Code of Student Life, Section II), faculty members (see Policies of Academic Freedom and Tenure, UNCW, Section VII), and administrators and other employees (see Procedure No. PER 6.10 and Personnel Policies of Designated Employment Exempt from State Personnel Act - EPA Administrative Positions).[1]

The penalties to be imposed by the university may range from written warning with probationary status to expulsion from enrollment and discharge from employment; however, the following minimum penalties shall be imposed for the particular offenses described.

1. Trafficking in Illegal Drugs
   a. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell, or deliver any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, heroin, mescaline, lysergic acid diethylamide, opium, cocaine, amphetamine, methaqualine), any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
   b. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell or deliver, any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, marijuana, pentobarbitals, codeine), the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
      For a second offense, any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.
2. Illegal Possession of Drugs
   a. For a first offense involving the illegal possession of any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-90, the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   b. For a first offense involving the illegal possession of any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, the minimum penalty shall be probation, for a period to be determined on a case-by-case basis. A person on probation must agree to participate in a drug education and counseling program, consent to regular drug testing, and accept such other conditions and restrictions, including a program of community service as the chancellor or chancellor's designee deems appropriate. Refusal or failure to abide by the terms of probation shall result in suspension from enrollment or employment for any unexpired balance of the prescribed period of the probation.
   c. For the second or other subsequent offenses involving the illegal possession of controlled substances, progressively more severe penalties shall be imposed, including expulsion of students and discharge of faculty members, administrators, or employees.

3. Suspension Pending Final Disposition
When a student, faculty member, administrator, or university employee has been charged by UNCW with a violation of policies concerning illegal drugs, he or she may be suspended from enrollment and/or employment before initiation or completion of regular disciplinary proceedings if, assuming the truth of the charges, the chancellor, or in the chancellor's absence, the chancellor's designee concludes that the person's continued presence within the university community would constitute a clear or immediate danger to the health or welfare of other members of the university community; provided that, if such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held as promptly as possible thereafter.

Assessment

A. UNCW shall in its effort to continually assess the campus environment:
   1. Appraise the institutional environment as an underlying cause of drug abuse.
   2. Assess campus awareness, attitudes, and behaviors regarding the use of drugs and employ results in program development.
   3. Collect and use drug related summary information from policy and security reports to guide program development.
   4. Collect and use summary health, counseling, and client information to guide program development.
   5. Collect summary data regarding drug-related disciplinary actions and use them to guide program development.

B. Annually, the chancellor shall submit to the Board of Trustees a report of campus activities related to illegal drugs for the preceding year. The report shall including the following:
   1. A listing of major education activities conducted during the year;
   2. A report on any illegal drug related incidents, including any sanctions imposed;
   3. An assessment by the chancellor of the effectiveness of the campus program; and
   4. Any proposed changes in university policy on illegal drugs. The chancellor shall provide a copy of his report to the president.

[1] Rules of the State Personnel Commission govern the disciplinary actions that may be taken against SPA employees. Under current commission regulations discharge, rather than suspension, is the applicable penalty for SPA employees in those instances where this policy otherwise requires suspension.

STUDENT LIFE

STUDENT LIFE

UNIVERSITY UNION/UNIVERSITY CENTER

Student life is enriched at the University of North Carolina at Wilmington by a broad spectrum of activities, most of which occur in or around the University Union and University Center. The union is a 53,000 square-foot facility that houses students organization offices, conference rooms, lounges, study areas, the Hawk's Nest snack bar, rental lockers, the University Information Center, and an assortment of student services. Across the street from the Union is the 43,000 square foot University Center, with the U.S. Post Office, automatic teller machines, recreation and games facilities, lounges, Center Stage Cafe, ballroom, and space for large or small events. Both buildings have art galleries with monthly exhibits open to the public. With the belief that education is not bound to the classroom, it is the union's goal to educate, entertain and enlighten the university community, while providing a laboratory for student growth and an arena for development of cultural, social and recreational awareness.

STUDENT ACTIVITIES OFFICE

The Office of Student Activities, within the Union Department, works to expand and complement the student's education by providing support to the approximately 100 student organizations that are officially registered on campus. The Student Activities Office assists organizations with the planning, execution and evaluation of events and activities that are not only entertaining, but also educational. The office provides expertise in the areas of activity programming, contract negotiation, university policy and procedure explanations, budget preparation, publicity and promotion and organization development.

THE LEADERSHIP CENTER

The Leadership Center, within the University Union, provides a comprehensive program that promotes student and organizational development and awareness of contemporary issues through experiential leadership training, education and development activities. These activities are varied, but include workshops, retreats, publications, outdoor adventure, resources, seminars, consultations, community service, and self-assessments. Through collaboration among Student Affairs staff and academic faculty, a cohesive program encourages students how to recognize, evaluate and cultivate the potential strengths within themselves and others.

These programs improve the quality of the overall campus experience by providing opportunities to learn about and practice leadership. Ultimately, the program goal is to create a dynamic process that will continue after the student's college experience and encourage them to improve the world as active citizens in our changing democracy.

UNCW Volunteers

UNCW Volunteers, located in the Leadership Center in the University Union, helps students, faculty, and staff locate volunteer opportunities in New Hanover County. The emphasis is on learning leadership through serving.

MINORITY AFFAIRS OFFICE

The Minority Affairs Office is responsible for the implementation of programs and activities designed to enhance the overall experiences of minority students at UNCW. Through direct sponsorship of or participation in Minority Visitation Day, orientation, workshops, recruitment,

a minority mentor program, the tutorial assistance program, and other activities, the office provides an added dimension to the traditional services offered to UNCW students. All students are invited to visit the office, in room 211 of the University Union, or call 919-395-3832, to discuss ways in which the office may be of service.

UNIVERSITY INFORMATION CENTER

The Information Center, located on the first floor of the University Union, provides a variety of information on campus, student and community activities, as well as campus telephone numbers. The center also sells discount movie tickets, concert tickets, and is the repository for campus lost and found items.

POSTAL SERVICES

UNCW Postal Services provides mail services to the campus community through the UNCW Station, a USPS contract station located in the University Center. Mailing and express services, FAX service, money orders, and mailing supplies are available Monday through Friday, 8:30 a.m. to 4:30 p.m.

UNCW provides each student with a post office box which serves as his or her official address. Mail boxes are required for fall and spring semesters and are issued on request for summer sessions. These boxes are used for all university correspondence (except tuition bills and grades) and should be checked regularly.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the university is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interest of the university and upholding a high standard of morals and conduct. It is responsible for the disbursement of half of the student activity fee. This money supports the Student Government Association in its objectives and campus activities. The association is a member of the North Carolina Association of Student Governments.

ASSOCIATION FOR CAMPUS ENTERTAINMENT (ACE)

The Association for Campus Entertainment coordinates the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, recreational, and cultural growth for students and the campus community. ACE is comprised of the following committees: Fine Arts/Lecture, Film-Video, Concert, Cultural Arts, Homecoming, and Special Events. The board is a member of the National Association for Campus Activities.

STUDENT ORGANIZATIONS

A variety of social, academic, and service organizations enhances student life at UNCW. National sororities and fraternities are established on the campus to recognize students for their leadership and service activities. Several departments in the university have locally and nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. Special interest groups address a variety of areas, including political, religious, sports, and professional interests. Students are encouraged to contact the Office of Student Activities for specific information relative to a student organization.

MEDIA AND PUBLICATIONS

The Seahawk, the student newspaper, is published weekly. Its staff is composed entirely of students.

The Atlantis, a literary magazine, is published by students each spring.

The Channel Marker is a newsletter and calendar published monthly by the Student Activities Office to provide information regarding the dates and times of campus events, and to relate information to student organizations.

The Student Handbook and *Code of Student Life* is the primary source of information regarding university regulations and campus life.

WLOZ, the campus cable radio station, is completely run by students. The station broadcasts daily.

NATIONAL STUDENT EXCHANGE (NSE)

Students can participate in this exciting and challenging program that provides an opportunity to attend (for one year or one semester) another NSE network university. At little or no more cost to students than they are now paying, an opportunity to experience new places, ideas and cultures while attending a school that complements and supplements the course offerings at another institution, as it becomes a "satellite campus" of UNCW. Campus coordination is provided by the Student Activities Office.

ATHLETICS

The university holds membership in the National Collegiate Athletic Association, Eastern College Athletic Conference, and the Colonial Athletic Association.

Varsity intercollegiate teams are fielded for men in basketball, cross country, baseball, golf, soccer, tennis, swimming, and track and field. Variety intercollegiate teams for women are fielded in basketball, softball, tennis, volleyball, swimming, golf, cross country, and track and field.

EXPENSES

EXPENSES

The Board of Governors of the University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Tuition and Fees (In effect at time of publication)

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to the University of North Carolina at Wilmington.

Full-Time Charges Per Semester (nine or more semester hours):

	In-State Students	Out-of-State Students
Tuition	$359.00	$3,195.00
Fees	313.00	313.00
Total	$672.00	$3,508.00

The following student activities fees are included in the full-time tuition and fee amount per semester.

	In-State	Out-of-State
Athletic Fee	$ 91.50	$ 91.50
Health Services	49.00	49.00
SGA	19.00	19.00
Student Union	50.50	50.50
Intramurals	6.00	6.00
Postal	4.00	4.00
Physical Activities	18.00	18.00
Cultural Events	5.00	5.00
Student Union Facilities	45.00	45.00
Physical Education Facilities	25.00	25.00
Subtotal	$ 313.00	$ 313.00

Certain courses have additional fees which increase the semester charges shown above. These fee courses are indicated in the course schedule for each semester.

Other fees:

Application Fee (to accompany application, nonrefundable)	$25.00
Transcript Fee	2.00
Graduation Fee	50.00

Graduate students registering for nine or more semester hours will be charged at the full-time rate as shown above. Students scheduling fewer than nine semester hours will pay tuition and fees as follows:

Semester Hours	In-State Students	Out-of-State Students*
0-Thesis only	$189.00	$ 537.00
1-2	$118.25	$ 827.25
3-5	$317.25	$1,735.25
6-8	$425.50	$2,552.50
9 or more	$672.00	$3,508.00

*See information on residency at the end of this section.

No degree, diploma, transcript of credit, or grades will be furnished a student until all financial obligations to the university, other than student loans, have been paid. All previously incurred expenses and accounts at the university must be paid in full prior to preregistration or registration for a new term.

On-Campus Living

The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and laundry facilities are available. Residence hall, apartment and suite students are required to participate in the university dining hall program under one of the three meal plans. The university operates a modern, air-conditioned cafeteria building. Short-order food service is available in the Hawk's Nest located in the University Union, in the Center Stage Cafe located in the University Center, specializing in pizza and subs, and the convenience store located in apartment building M. Service is on a cash basis for non-boarding students. The Housing and Food Service operations are closed during Thanksgiving, Christmas, and spring breaks.

MEAL PLAN OPTIONS

A meal plan is required for all students living on campus. The options available are listed below. The student identification card also serves as the student meal card and must be presented at every meal. Student meal cards are not transferable to another student or guest.

1992-93 SEMESTER BOARD RATES

PLAN A: 9 meals and $100.00 balance = $725.00

Any 9 meals during the 7-day week at Wagoner Dining Hall plus a $100 declining balance (for the semester) that can be used at the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN B: 14 meals per week and $100.00 balance = $790.00

Any 14 meals during the seven day week at Wagoner Dining Hall plus a $100.00 declining balance (for the semester) that can be used at the Hawk's Next, Seahawk Station, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN C: 19 meals per week = $790.00

Allows 19 meals per week, 3 meals a day Monday through Friday, brunch and dinner on Saturday and Sunday. A $2.00 transferability will allow student to use the meal card at the Hawk's Nest or Center Stage Cafe for lunch Monday through Friday. Students may opt to add cash for declining balance that can be used in the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA or for guests at Wagoner Dining Hall.

1992-93 SEMESTER ROOM AND BOARD RATES

Room rate includes: rent, utilities, local phone service, cable TV, housekeeping (except apartments) and security.

Belk, Graham, Hewlett, Schwartz, and Galloway

with 9 meal plan	$1,775
with 14 meal plan	$1,840
with 19 meal plan	$1,840

Apartment	
with 9 meal plan	$1,985
with 14 meal plan	$2,050
with 19 meal plan	$2,050
Double Suite	
with 9 meal plan	$1,875
with 14 meal plan	$1,940
with 19 meal plan	$1,940
Single Suite	
with 9 meal plan	$1,985
with 14 meal plan	$2,050
with 19 meal plan	$2,050

This contract is for both fall and spring semesters. Room and board fees are per semester costs. Students entering into this agreement in the fall and spring semester are liable for the room and board charges for the spring semester. No refund of room charges will be made once a student officially moves into a residence hall/apartment/suite.

The university reserves the right to change the room and board rates without prior notice.

An advance room reservation deposit of $100.00 to be applied to the room and board account must be remitted by each applicant along with the complete application for room and board.

Those interested in obtaining information should contact:

The Housing and Residence Life Office
The University of North Carolina at Wilmington
601 South College Road
Wilmington, North Carolina 28403-3297
Telephone (919) 395-3178

Summer Session

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

Refunds - Tuition and Fees

A student who officially withdraws from the university on or before the last day of the registration (Drop/Add) period will receive a refund of the amount paid.

Students withdrawing from the university after the Drop/Add period will be charged ten (10) percent of all semester charges for each week of classes that have been held that semester. This weekly charge begins with the first day of scheduled classes regardless of the actual date of enrollment.

No refunds will be made for withdrawals after the end of the ninth week of scheduled classes.

This refund policy applies to complete withdrawals from UNCW. If you simply reduce your course load after the Drop/Add period, you will receive **NO** refund or reduction of fees whatsoever.

Refunds - Room and Board

A student who officially withdraws from the university on or before the scheduled residence hall opening date will receive a refund of the amount paid.

Students withdrawing from the university after the scheduled residence hall opening date will be charged ten (10) percent per week for room and board charges for the first ten weeks

of the semester. Declining balance portions of board plans will be refunded separately. No refunds will be made for withdrawals after the first ten weeks.

This refund policy applies to complete withdrawals from UNCW.

Residence Status for Tuition Payment

The basis for determining the appropriate tuition charge rests upon whether a student is a resident or a nonresident for tuition purposes. Each student must make a statement as to the length of his or her residence in North Carolina, with assessment by the institution of that statement to be conditioned by the following:

Residence. To qualify as a resident for tuition purposes, a person must become a legal resident and remain a legal resident for at least 12-months immediately prior to classification. Thus, there is a distinction between legal residence and residence for tuition purposes. Furthermore, 12-months legal residence means more than simple abode in North Carolina. In particular, it means maintaining a domicile (permanent home of indefinite duration) as opposed to maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education. The burden of establishing facts that justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification, who must show his or her entitlement by the preponderance (the greater part) of the residentiary information.

Initiative. Being classified a resident for tuition purposes is contingent on the student's seeking such status and providing all information that the institution may require in making the determination.

Parent's Domicile. If an individual, irrespective of age, has living parent(s) or court-appointed guardian of the person, the domicile of such parent(s) or guardian is, prima facie, the domicile of the individual; but this prima facie evidence of the individual's domicile may or may not be sustained by other information. Further, nondomiciliary status of parents is not deemed prima facie evidence of the applicant child's status if the applicant has lived (though not necessarily legally resided) in North Carolina for the five years preceding enrollment or re- registration.

Effect of Marriage. Marriage alone does not prevent a person from becoming or continuing to be a resident for tuition purposes, nor does marriage in any circumstances insure that a person will become or continue to be a resident for tuition purposes. Marriage and the legal residence of one's spouse are, however, relevant information in determining residentiary intent. Furthermore, if both husband and his wife are legal residents of North Carolina and if one of them has been a legal resident longer than the other, then the longer duration may be claimed by either spouse in meeting the 12-month requirement for in-state tuition status.

Military Personnel. A North Carolinian who serves outside the state in the armed forces does not lose North Carolina domicile simply by reason of such service. And students from the military may prove retention or establishment of residence by reference, as is other cases, to residentiary acts accompanied by residentiary intent.

In addition, a separate North Carolina statute affords tuition rate benefits to certain military personnel and their dependents even though not qualifying for the in-state rate by reason of twelve months legal residence in North Carolina. Members of the armed services, while stationed in and concurrently living in North Carolina, may be charged a tuition rate lower than the out-of-state tuition rate to the extent that the total of entitlements for application tuition costs available from the federal government, plus certain amounts based under a statutory formula upon the in-state tuition rate, is a sum less than the out-of-state tuition rate

for the pertinent enrollment. A dependent relative of a service member stationed in North Carolina is eligible to be charged the in-state tuition rate while the dependent relative is living in North Carolina with the service member and if the dependent relative has met any requirement of the Selective Service System applicable to the dependent relative. These tuition benefits may be enjoyed only if the applicable requirements for admission have been met; these benefits alone do not provide the basis for receiving those derivative benefits under the provisions of the residence classification statute reviewed elsewhere in this summary.

Grace Period. If a person (1) has been a bona fide legal resident, (2) has consequently been classified a resident for tuition purposes, and (3) has subsequently lost North Carolina legal residence while enrolled at a public institution of higher education, that person may continue to enjoy the in-state tuition rate for a grace period of 12-months measured from the date on which North Carolina legal residence was lost. If the 12-months end during an academic term for which the person is enrolled at a state institution of higher education, the grace period extends, in addition, to the end of that term. The fact of marriage to one who continues domicile outside North Carolina does not by itself cause loss of legal residence, marking the beginning of the grace period.

Minors. Minors (persons under 18 years of age) usually have the domicile of their parents, but certain special cases are recognized by the residence classification statue in determining residence for tuition purposes.

(a) If a minor's parents live apart, the minor's domicile is deemed to be North Carolina for the time period(s) that either parent, as a North Carolina legal resident, may claim and does claim the minor as a tax dependent, even if other law or judicial act assigns the minor's domicile outside North Carolina. A minor thus deemed to be a legal resident will not, upon achieving majority before enrolling at an institution of higher education, lost North Carolina legal residence if that person (1) upon becoming an adult acts, to the extent that the person's degree of actual emancipation permits, in a manner consistent with bona fide legal residence in North Carolina and (2) begins enrollment at an institution of higher education not later than the fall academic term following completion of education prerequisite to admission at such institution.

(b) If a minor has lived for five or more consecutive years with relatives (other than parents) who are domiciled in North Carolina and if the relatives have functioned during this time as if they were personal guardians, the minor will be deemed a resident for tuition purposes for an enrolled term commencing immediately after at least five years in which these circumstances have existed. If under this consideration a minor is deemed to be a resident for tuition purposes immediately prior to his or her eighteenth birthday, that person on achieving majority will be deemed a legal resident of North Carolina of at least 12-months duration. This provision acts to confer in-state tuition status even in the face of other provisions of law to the contrary; however, a person deemed a resident of 12-months duration pursuant to this provision continues to be a legal resident of the State only so long as he or she does not abandon North Carolina domicile.

Lost but Regained Domicile. If a student ceases enrollment at or graduates from an institution of higher education while classified a resident for tuition purposes and then both abandons and reacquires North Carolina domicile within a 12-month period, that person, if he or she continues to maintain the required domicile into re-enrollment at an institution of higher education, may re-enroll at the in-state tuition rate without having to meet the usual 12-month durational requirement. However, any one person may receive the benefit of this provision only once.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal

withdrawal from enrollment) must be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual enrollment. A resident status classification once assigned (and finalized pursuant to any appeal properly taken) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary division of the academic year.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial residence status classification for tuition purposes.

The initial classification of graduate students as in-state or out-of-state residents for tuition purposes is made by the Graduate School. Appeals for in-state status may be made to the campus appeals body, Out-of State Tuition Appeals Committee.

University regulations governing residential classification of students are set forth in detail in *"A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes."* Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the undergraduate Admissions Office and in Randall Library.

FINANCIAL AID FOR GRADUATE STUDENTS

MINORITY PRESENCE GRANT PROGRAM

Under the Board of Governors general Minority Presence Grant Program, black students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework,and demonstrate financial need. Preference is given to undergraduates.

ASSISTANTSHIPS

Graduate teaching assistantships are available on a limited basis in the Cameron School of Business Administration; School of Education; and the College of Arts and Sciences in the departments of Biological Sciences, Chemistry, Earth Sciences, English, History and Mathematics. A limited number of graduate research assistantships are available through the Center for Marine Science Research. The admission application process determines the candidates for these awards. For information contact the specific department/school or the Graduate School.

FELLOWSHIPS/SCHOLARSHIPS

The Graduate School's Awards for New Scholars. A limited number of scholarships are available to students entering any of UNCW's graduate programs for the first time. Students do not apply for these scholarships. Instead, nominations originate with the departments, which submit their recommendations to the dean of the Graduate School. Criteria include evidence of exceptional scholarship, normally strong GRE scores (or their equivalent) and an excellent undergraduate GPA.

The Champion McDowell Davis Scholarship is available to students from any major. This scholarship covers tuition and fees, books and other selected expenses and is awarded to students based on academic achievement, leadership potential and demonstrated financial need. A selection committee is charged with selecting the recipients each year. Application can be made at the Financial Aid Office.

The Sylvia and B. D. Schwartz Graduate Fellowship Award may be awarded to any graduate student enrolled in nine hours or more at the University of North Carolina at Wilmington. Recipients shall be determined by the Graduate School and will receive an amount equal to in-state tuition and fees.

The J. W. Jackson Scholarship has a $2,000 per year value and is restricted to a junior-senior or graduate student enrolled in the Cameron School of Business Administration. The scholarship is designed for students with high academic potential. Applications can be made in the Financial Aid Office. Students awarded this scholarship are eligible to reapply.

LOANS/COLLEGE WORK STUDY PROGRAM

The Mellie Hill Barlow Loan Fund is set up to provide no-interest loans to students at UNCW who are orphans or are from single-parent homes. The loans carry a legal obligation to be repaid. Applications can be made at the Financial Aid Office.

Students who are enrolled at least half time in the Graduate School at UNCW may apply for the following types of financial aid:

Federal Stafford Loan Program provides loans to graduate students who qualify on the basis of financial need. Applicants complete the regular financial aid application process in addition to completing a loan application. Students may borrow up to $8,500 per academic year for five years. Repayment begins on the day immediately following the six-month grace period. The interest rate is calculated at a variable rate based on 91-day T-bills plus 3.10%, capped at 9%. Borrowers may be given up to 10 years to repay their loans.

Federal Unsubsidized Stafford Loan Program is a "new" program which expands Stafford borrowing to students who do not demonstrate need based on federal guidelines. Even though the unsubsidized Stafford loan carries the same loan limits and interest rate as the subsidized Stafford loan, interest does accrue while the student is enrolled.

Federal Supplemental loans for students provide funds to cover their college expenses in addition to those borrowed under the Guaranteed Loan program. These loans are available to independent graduate students who meet federal eligibility requirements, and attend school at least half time. In determining eligibility, the credit worthiness of the borrower is of primary importance. Students may borrow up to $10,000 per year for a cumulative total of $73,000. However, no student may borrow more than his cost of education minus other aid received. Repayment begins 60 days after receipt of your loan. A variable interest rate will be calculated annually based on a federal formula, but cannot exceed 11 percent.

Federal Parent Loans for dependent graduate students may be secured by the parent to assist in covering educational costs. Parents may borrow up to the cost of education at UNC Wilmington minus all other financial assistance. In determining eligibility, credit worthiness of the borrower is of primary importance. A variable interest rate will be calculated annually based on a federal formula. The new rate will begin each year, but cannot exceed 11 percent.

Federal College Work-Study Program, which is federally funded, provides part-time jobs on the UNCW campus for students who have financial need and who must earn part of their educational expenses. To be eligible for work-study, a student must be enrolled for at least half time and must be a citizen or permanent resident of the United States. The application and financial statement must demonstrate financial need.

For additional information, contact the Financial Aid Office.

GradEXCEL Educational Loan for Graduate Students offer graduate and professional students a signature loan based on projected future earnings, rather than on current income and creditworthiness. Annual loan amounts range from $2,000 to $7,500 (up to $12,000 for

Graduate Law students) when a student borrows on his/her own, or up to $20,000 annually with a creditworthy co-borrower. Borrowers may choose between two interest rate options, and have three repayment options: (1) deferred principal and interest payments while enrolled; (2) deferred principal payments while enrolled; (3) fixed monthly payments of principal and interest. Repayment periods range from four to 20 years, depending on amount borrowed.

For more information or a GradEXCEL application, please call Nellie Mae at 1-800-634-9308 or (617) 849-3447, or write to: Nellie Mae, GradEXCEL Department, 50 Braintree Hill Park, Suite 300, Braintree, MA 02184.

Satisfactory Progress

To be eligible to receive or to remain eligible to receive financial aid funds, graduates must maintain "satisfactory progress" in their course of study. A determination of satisfactory progress incorporates two standards applied at the end of the regular academic year.

Standard one requires that full-time students must demonstrate successful completion of the following number of hours as determined by graduation requirements:

Master in Business. For full-time students 14 hours each academic year (approximately one-fourth of the total hours required for graduation). For half-time students six hours each academic year (approximately one-eighth of the total hours required for graduation).

Master in Education and Masters in Arts or Sciences. For full-time students 12 hours each academic year (approximately one-third of the total hours required for graduation). For half-time students six hours each academic year (approximately one-sixth of the total hours required for graduation).

In the case of a student who changes his or her enrollment status from fall to spring semester, the hours which must be completed will be averaged.

Standard two involves a qualitative measurement that determines that the graduate student needs to be making satisfactory progress. Any student receiving grades of C on any three courses or on 12 semester hours (whichever comes first) or any grade of F is not considered to be making satisfactory progress and is not eligible for continued financial aid.

The standards for progress outlined for financial aid recipients are not applicable for purposes of continued enrollment, since such determinations will be made by the university in accordance with institutional policy. Aid students who fail to meet the above standards will be dropped from financial aid after the spring semester and will not be reinstated until the standards are met. Students terminated from aid because of failure to meet satisfactory progress standards may reapply when mitigating circumstances exist by using the appeal process outlined in the Financial Aid Booklet. All such appeals relating to satisfactory progress must be made within 30 days following the completion of the spring semester.

Time Limitation Policy.

In determining eligibility for financial aid, the graduate student is allowed up to one additional year beyond the determined full-time tract to complete the graduate degree program.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the university. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved. For further assistance, contact the veterans coordinator in the Student Financial Aid Office.

ACADEMIC REGULATIONS AND PROCEDURES

ACADEMIC REGULATIONS AND PROCEDURES

REGISTRATION

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in graduate programs are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

Cancellation of Course Registration

A department chairperson, upon recommendation of the instructor, may cancel a student's registration in any course offered in that department if the registered student fails to attend the **first** class meeting and fails to notify the department office of a desire to remain enrolled within 24 hours of the class time. This cancellation action will only take place when a course is fully enrolled and additional students are waiting to enroll.

The appropriate dean's office should notify the relevant department chairperson of late-arrival students who cannot attend the first class meeting because of illness or other reasons approved by a dean of the college, the professional schools or the dean of students.

If cancellation action is taken by a department chairperson, the registration openings resulting from this action will be offered to students seeking enrollment in the courses during the official drop/add period. Students who have been authorized to add a course should follow the normal drop/add procedures printed in the semester schedule.

Student appeals resulting from emergencies or other extenuating circumstances will be considered on a case-by-case basis in the appropriate dean's office.

PREREGISTRATION

Preregistration for students currently enrolled is held each semester. Students who complete preregistration and who pay fees by the designated date are registered except in the event that they are declared academically ineligible at the end of the preceding semester. Graduate students receive notification from their advisors, through their campus post office box, regarding an appointment time to discuss their schedule. They will be given a permit to preregister at the time of their appointments.

FULL-TIME STATUS

Graduate-Regular Term

Full-time status requires a minimum enrollment of nine credit hours. However, a student may also be considered full-time when enrolled for less than nine hours if the student holds a teaching or research assistantship, or is enrolled for zero to three hours of thesis work. Half-time status begins with at least three credit hours. A student may not be considered enrolled beyond two terms of zero thesis hours. Summer counts as one regular term.

Graduate-Summer Term

Full-time status requires a minimum enrollment of four credit hours. However, a student may also be considered full-time when enrolled for less than four hours if the student holds a teaching or research assistantship, or is enrolled for zero to three hours of thesis work. Half-time enrollment status begins with three credit hours. Zero to three hours of thesis work

may also qualify the student as half-time if approved in writing by the graduate dean. A student may not be considered enrolled beyond two terms of zero thesis hours. Summer counts as one regular term.

COURSE CREDIT

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to the Graduate School, except as described in the paragraphs below.

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or school dean, as appropriate, and (2) present it to the dean of the Graduate School for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Graduate courses taken at this institution as a non-degree student before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit. A maximum of 10 hours may be applied toward the degree.

Degree-related extension courses offered by this institution may be applied toward a graduate degree as follows: (a) with the approval of the appropriate dean, a non-degree student may apply for a maximum of six hours of relevant courses as transfer credits at the time of admission to a program, (b) with the prior approval of the appropriate dean, a student who is already admitted to a degree program may apply up to six hours of relevant courses toward the residence requirement. Requests for application of an additional six hours toward the residence requirement may be submitted to the dean of the Graduate School.

Transfer of Course Credit

A maximum of six semester hours of graduate credit may be transferred from another accredited institution in partial fulfillment of the total hours required for the master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition the Graduate School for transfer of more than six semester hours. Each such petition must be accompanied by a statement of endorsement from the appropriate dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the dean of the Graduate School only upon recommendation of the dean of the school or college in which the student is enrolled. The Graduate School must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree.

A graduate student who wishes to take one or more courses elsewhere for graduate degree credit must obtain prior approval from the appropriate dean and the dean of the Graduate School.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate program and do not carry graduate course credit.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing, but all such courses are recorded as part of the official record.

ADDING, DROPPING

Courses may be added or dropped only in the official drop/add period, which is noted in the Calendar of Events. To add or drop a course, the student must present to the Graduate School a drop/add card signed by his or her graduate coordinator/advisor and the course instructor for approval.

A student may not use a Schedule Revision Card to drop his or her only course, but must officially withdraw from the university.

WITHDRAWAL POLICY FOR GRADUATE STUDENTS

A student is allowed to withdraw from the university or from individual courses through the first week of the semester without having a grade entered on the academic record. Inclusive of the second through week twelve of the semester, any student who withdraws will receive a grade of W. A grade of W will not affect the student's grade point average. Beginning with the thirteenth week of the semester, a grade of F will be assigned for each course withdrawal.

To withdraw from an individual class or classes, the student must report to the Graduate School before or on the last day for withdrawal as indicated in the university calendar of events. To withdraw from all classes, the student must process an official withdrawal form through the Graduate School. If the student is unable to appear in person to withdraw, written notice must be sent to the Graduate School.

Should extenuating circumstances warrant, the grade of F assigned for course withdrawal may be changed to a W. This determination will be made by the dean of the Graduate School. It is the student's responsibility to initiate the appeal. The decision of the dean is final and must be rendered prior to the end of the semester in which the withdrawal occurred.

GRADUATE GRADING

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

A (4 qp) - excellent
B (3 qp) - completely satisfactory
C (2 qp) - minimally acceptable
F (0 qp) - failure
S - satisfactory progress (thesis)
I - work incomplete
W - withdraw passing

GRADES OF INCOMPLETE

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The instructor may set the maximum allowable period for completion of the course work, but in

no case will the extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the dean of the Graduate School. If, within 12 months, a change of grade has not been submitted by the instructor, the incomplete automatically becomes a F.

RETENTION POLICY

Three grades of C or one grade of F results in dismissal from the graduate program. Further, if a student falls below a 3.0 gpa at any time, he or she goes on academic probation and has three subsequent courses to bring the gpa up to at least 3.0. In addition, a student must have at least 3.0 gpa in order to begin any program-specific comprehensive examination and/or thesis work.

MINIMUM COMPETENCY REQUIREMENT

Individual graduate programs may designate certain courses as requiring minimum competence of B. Any student receiving a C in such a course must repeat it and receive a grade of B or better. Such courses may be repeated only once, and failure to receive a B or better grade in the repetition will result in dismissal from the graduate program. Both the initial C and subsequent grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

POLICY ON REPEATING COURSES

A student who has received a grade of C may repeat that course once. Both the first and second grade will count in determining the gpa, but only the initial hours will count toward degree requirements. Students may not repeat a course in which they received a grade of A or B.

RETENTION BY APPEAL

Students who have been dismissed from the graduate program and readmitted by special action of the graduate dean shall have their subsequent retention policy determined individually by the dean.

AUDITING POLICY FOR GRADUATE STUDENTS

Auditing is considered the privilege to attend a class if space is available. The decision to allow auditing within the professional schools and graduate degree programs is the prerogative of the deans and the department chairs. Within those programs granting the auditing privilege, students must have the approval of the instructor and the appropriate department chair or dean prior to registering or adding the course(s) to their schedule. The student should consult the registrar for auditing registration dates. The audit will be considered part of the student course load. Tuition, fees, and enrollment procedures are the same as for credit enrollment.

Attendance, preparation, and participation in classroom discussions and activities are at the discretion of the instructor and the department. No credit is given, no examinations are required, and no grades are reported for audited courses. A formal record of the audit may be entered on the student's transcript at the discretion of the instructor. The procedure for dropping an audit course is the same as for credit enrollments. A course audit may not be changed to graduate credit.

GRADUATION

A student must have no less than a 3.0 gpa on all graduate-level courses. Grades of A,B,C,F,S, and W are permanent grades and can be changed only the dean of the Graduate School in cases of arithmetical or clerical error or as a result of protest of grade.

PROCEDURE FOR PROTEST OF GRADE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeals must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the dean of the college or school within which the protested grade was awarded. By conferring with the student and the instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will transmit the written appeal to the dean of the Graduate School. The dean of the Graduate School will convene the Grade Appeals Committee.

The Grade Appeals Committee will consist of the graduate dean as chairman and five members of the graduate faculty appointed by the graduate dean. If the committee affirms the instructor's decision, the graduate dean will notify in writing the faculty member, the student, and the appropriate dean. If the committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be appealed further.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examination at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of this desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period.

Rescheduling of a final examination for an entire class requires the approval of the appropriate dean.

TRANSCRIPTS

Transcripts are issued by the Office of the Registrar to students at the cost of $2.00 each. All requests for transcripts must be in writing and must include the student's signature.

INDEBTEDNESS

All indebtedness to the university must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar in writing of any change in name or permanent mailing address.

SAFETY AND HEALTH PROGRAM

UNCW's safety program complies with the State Occupational Safety and Health Act of 1973.

MASTER'S DEGREE EXAMINATION

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or school. Neither examination may be taken until the course work is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the dean of the school or college in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination. A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor. A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the dean of the Graduate School. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

REGISTRATION FOR THESIS

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only courses for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of university faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of university faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded.

FOREIGN LANGUAGE REQUIREMENT

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in a given program must be one of the options approved for that program by the Graduate School.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such a requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her dean will be asked to certify on the application of candidacy that such a requirement has been met.

APPLICATION FOR ADMISSION TO CANDIDACY AND FOR THE DEGREE

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree, but fails to meet a deadline for a particular graduation, he or she must contact the Graduate School to specify a new graduation date.

DEGREE TIME LIMITS

A graduate student has five calendar years to complete his or her degree program. The five-year period begins with the student's first term of work after formal admission to a degree-granting program. Work completed as a non-degree student does not initiate the five-year period for completing a degree program. Courses taken more than five calendar years prior to the admission of a student into a degree program at UNCW normally are not accepted for credit toward fulfilling the requirements of the student's degree program. In some cases, however, with approval of the student's advisory committee and department/unit chair, a student may petition the Graduate School to accept for credit work that is more than five years old.

When extenuating circumstances warrant, an extension of the time limit for completing a graduate program may be granted to a student upon his or her petition to the dean of the Graduate School. Such petitions must include an explanation and the endorsement of the student's advisory committee and academic unit's chair or dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of each individual.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. Complete details may be found in the current *Student Handbook and Code of Student Life and in the Faculty Handbook.*

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. All faculty members are responsible for setting policy concerning the role of attendance in determining grades for their classes. It is the responsibility of the students to learn and comply with the policies set for each class in which they are registered.

THE GRADUATE SCHOOL

THE GRADUATE SCHOOL

Eric G. Bolen, Dean

The Graduate School at the University of North Carolina at Wilmington administers programs of study leading to the Master of Business Administration degree, the Master of Education degree, the Master of Arts in Teaching degree, the Master of Science degree in biology, chemistry, geology, mathematics, and marine biology, and the Master of Arts degree in English, history, and mathematics.

Each of these programs provides capable students with an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development. Fuller descriptions of these programs appear separately in the following pages.

ADMISSIONS

GENERAL ADMISSIONS REQUIREMENTS

For admission to a graduate degree program at the University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. For information on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT) contact the University Student Development Center. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking, or have taken, graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNCW.

Applications for admission to most graduate degree programs should be filed in the Graduate School at least sixty (60) days in advance of the term in which admission is sought; some programs require earlier deadlines. If admitted applicants do not register for the term specified in this application, their admission will be subject to review at a later date. A student who leaves the university and who does not register for at least one semester must apply for readmission to the Graduate School. Each student admitted to a graduate degree program must have a completed medical report form on file at UNCW before initial registration may be effective. In addition, an immunization record for each newly admitted UNCW graduate student, regardless of status, is required by law to be on file at UNCW prior to enrollment.

Graduate students are subject to the same university policies and regulations as undergraduates unless otherwise stated.

Specific admission requirements are listed under each master's degree program.

NON-DEGREE STUDENTS (Special Graduate Status)

In some cases, students who are not seeking a graduate degree may be permitted to take graduate courses. Such permission to take graduate courses does not constitute admission to a graduate degree program. Non-degree graduate students are not candidates for degrees. Enrollment must be maintained in at least one graduate course each semester. The undergraduate grade-point averages for non-degree graduate students are expected to meet

the same standards that apply to the admission of graduate students in full standing. Students that are later accepted to a degree program may, with approval, have up to 10 hours applied toward the degree. Normally, non-degree status is not available and does not apply to students interested in taking courses in the Cameron School of Business Administration. Admission requirements may vary for each academic unit, and students seeking non-degree status therefore must determine and meet these conditions prior to completing their application. Any individual having an interest in applying for admission as a non-degree graduate student should contact the Graduate School.

RE-ENROLLING

A student who leaves the university and who does not register for at least one semester (fall or spring, not applicable for summer) must apply for readmission to the Graduate School. The re-enrollment forms are available in the Graduate School. No fee is required.

INTERNATIONAL STUDENTS (see Special Academic Programs section)

COOPERATIVE PH.D. PROGRAM IN MARINE SCIENCE (see Special Academic Programs section)

ADMISSIONS-SENIOR CITIZENS

Residents of North Carolina age 65 or older who meet applicable admission requirements may enroll tuition free on a space available basis. Students who wish to enroll under the provisions of this law should document their senior citizen status at the time of registration. The availability of class space cannot be determined until after registration.

NONDISCRIMINATION POLICY

UNCW is dedicated to equality of opportunity within its community. Accordingly, UNCW does not practice nor condone discrimination in any form against students, employees, or applicants on the grounds of race, color, national origin, religion, sex, age, handicap or veteran status. UNCW commits itself to positive action to secure equal opportunity regardless of those characteristics. For additional information, contact the compliance officer.

Any student who supplies false or misleading information or who conceals pertinent facts in order to enroll in the University of North Carolina at Wilmington is subject to immediate dismissal from the university.

Application forms and other admissions information may be obtained by contacing the Graduate School, University of North Carolina at Wilmington, 601 South College Road, Wilmington, North Carolina 28403-3297, (919) 395-3135 phone, (919) 395-3787 fax.

DEPARTMENT AND PREREQUISITE ABBREVIATIONS

The following standard list of abbreviations are used for stating department and prerequisite abbreviations.

Accountancy	ACG
Anthropology	ANT
Biology	BIO
Biology Lab	BIOL
Business Law	BLA
Chemistry	CHM
Chemistry Lab	CHML
Computer Science	CSC
Economics	ECN
Education	EDN
English	ENG
Finance	FIN
Geology	GLY
History	HST
Management	MGT
Marketing	MKT
Mathematics	MAT
Statistics	STT
Production and Decision Sciences	PDS

THE COLLEGE OF ARTS AND SCIENCES

Graduate programs in the College of Arts and Sciences lead to either a Master of Arts or a Master of Science degree. In addition, specialized curricula leading to the Master of Arts in Teaching degree are offered jointly by the College of Arts and Sciences and the School of Education for professional educators. All programs in the college are designed to enhance the intellectual competence, maturity, and independence of the master's student, thereby preparing students for careers in business, industry, government, teaching, or for further study at the doctoral level.

MASTER OF SCIENCE IN BIOLOGY AND MARINE BIOLOGY

The Department of Biological Sciences offers programs of study leading to a Master of Science degree in biology and a Master of Science degree in marine biology. The programs are designed (1) to prepare students for further graduate work leading to the Ph.D.; (2) to provide professional biologists with advanced research and education opportunities; (3) to prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; or (4) to provide a broad-based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in biology or marine biology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and subject test in biology)
4. Three recommendations by individuals in professionally relevant fields

Scores on the verbal, quantitative, and subject test in biology portions of the Graduate Record Examination (GRE) in the 50th percentile or above are desired. A bachelors degree in a field of biology from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, as well as an average of "B" or better in the undergraduate major. Undergraduate grades, GRE scores, and recommendations are used in concert to determine acceptability.

Degree Requirements

1. The program requires 30 semester hours of graduate study.

2. Six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better.

3. A minimum of 24 semester hours of graduate study must be completed in residence.

4. No more than nine hours of graduate level courses offered by other science departments at UNCW may be applied toward the degree.

5. No more than 10 credit hours from those courses crosslisted as 400/500 may be applied toward the degree. Undergraduate courses taken to make up deficiencies will not count toward the 30 hours required.

6. All deficiencies must be remedied prior to graduation.

7. The student must successfully complete a written comprehensive examination based on prior coursework and an oral defense of the thesis. The comprehensive examination normally will be taken during the student's final semester in residence.

8. Each student will present a thesis, based on original research, acceptable to the thesis advisory committee, prior to graduation.

9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study.

Requirements for Master of Science Degrees

Core courses: required of all students seeking a Master of Science degree in biology or marine biology.

BIO 501 Methods in Scientific Research (2)
BIO 599 Thesis (3-6)

Master of Science in Biology

In addition to the core courses listed above, each student, in consultation with his/her thesis advisory committee, shall devise a program of study that meets the requirements below, complements the thesis research, and satisfies individual needs and interests.

Select two of the following:

a) BIO 519 Advanced Topics in Cellular and Molecular Biology (4)
b) BIO 534 Advanced Ecology (4)
c) BIO 549 Advanced Topics in Animal Physiology (4)

A minimum of 14 hours of elective credit; at least seven hours of which must come from the following lists of electives. Graduate courses: BIO 515, 519*, 526, 531, 534*, 538, 539, 549*, 550, 551, 577, 579, 591, 594 (*If not taken as a required course above). Courses crosslisted for undergraduate and graduate students (ten hour limit): BIO 512, 512L, 520, 524, 529, 535, 536, 540, 541, 544, 554, 556, 557, 567, 574, 576, 580, 585.

Master of Science in Marine Biology

In addition to the core courses listed above, students shall complete the following courses and, in consultation with their thesis advisory committees, select electives to complete a program of study that meets individual needs and interests.

Select two of the following:

a) BIO 534 Advanced Ecology (4) or BIO 549 Advanced Topics in Animal Physiology (4) or BIO 519 Advanced Topics in Cell and Molecular Biology (4)
b) BIO 560 Estuarine Biology (4)
c) BIO 569 Advanced Oceanography (4)

A minimum of 14 hours of elective credit; at least seven hours of which must come from the following lists of electives. Graduate courses: BIO 525, 534*, 553, 558, 560*, 561, 562,

563, 564, 566, 569*, 575, 579, 591, 594 (*If not taken as a required course above). Courses crosslisted for undergraduate and graduate students (ten hour limit): BIO 529, 537, 545, 552, 559, 565, 570, 571, 572, 580, 585.

GRADUATE PROGRAM IN BIOLOGICAL SCIENCES

Course Descriptions

BIO 501. Methods in Scientific Research (2) Scientific manuscript preparation and communication techniques: manuscript format, graphics, design of experiments, library use, oral presentation, and writing techniques. Two lecture and two laboratory hours each week.

BIO 512. (410) Electron Microscopy and Cell Ultrastructure (3) Prerequisite: Course in cell physiology or permission of instructor. A discussion of the general and specialized techniques of transmission and scanning electron microscopy and their application to the elucidation of the structure and function of cell organelles in plants and animals.

BIOL 512. (BIOL 410) Electron Microscopy Laboratory (1) Corequisite: BIO 512 and permission of instructor. Techniques for fixing, embedding and thin sectioning of tissue are demonstrated. Students prepare a material of choice for observation and analysis and examine the prepared material with the electron microscope. Three laboratory hours each week.

BIO 515. Membrane Physiology (4) Prerequisite: Course in animal or cellular physiology or permission of instructor. Introduction to the principles of diffusion, osmosis, active transport, and membrane biophysics, with emphasis on cellular and whole animal ionic and osmotic regulation in marine invertebrates and vertebrates. The laboratory gives experience in ion measurements, handling radioisotopes, and flux studies. Three lecture and three laboratory hours each week.

BIO 519. Advanced Topics in Cellular and Molecular Biology (4) Prerequisite: Upper-level undergraduate or graduate course work in cellular and molecular biology or permission of the instructor. Selected topics in cellular and molecular biology. Includes: the cytoskeleton and its components, dynamics of membrane structure and function, metabolism of nitrogenous compounds, control of gene expression, and biology of extrachromosomal DNA. Three lecture and three laboratory hours each week.

BIO 520. (415) Vertebrate Histology (4) Prerequisite: Courses in introductory cell biology and general zoology. An introduction to the cytology and morphology of vertebrate cells and tissues, including examination of the four major histological tissues: epithelium, connective tissue, muscle, and nerve. Other topics include the techniques and instrumentation of light microscopy and selected methods of sectioning, fixation, and staining of tissues. Student project required. Three lecture and three laboratory hours each week.

BIO 524. (425) Microbiology (4) Prerequisite: Permission of instructor. Study of nonpathogenic and pathogenic microorganisms with emphasis on the biology of viruses

and bacteria. Laboratory sessions include the techniques required to identify, culture, and stain selected microorganisms. Three lecture and three laboratory hours each week.

BIO 525. Marine Microbiology (4) Prerequisite: Course in microbiology or permission of instructor. Study of structure and function of microbes and their nutrition, metabolism adaptation and genetics, as related to the marine environment. The laboratory includes techniques of studying microbes and their ecology, and the systematics of important microorganisms. Three lecture and three laboratory hours each week.

BIO 526. Advanced Topics in Microbiology (2-4) Prerequisite: Course in microbiology and organic chemistry or permission of instructor. Study of the taxonomy, morphology, metabolism, genetics and ecology of microorganisms. Emphasis is placed on the current microbiological literature. Lecture and laboratory hours each week.

BIO 529. (430) (ANT 430) Evolutionary Biology (3) Prerequisite: Course in genetics. Advanced survey of organizational principles of the genetic apparatus of prokaryotes and eukaryotes. Emphasis is on critical evaluation of current concepts and models of evolutionary dynamics using relevant illustrative examples from the literature.

BIO 531. Population Genetics (3) Prerequisite: Course in genetics. Basic principles of the dynamics of genes within populations. Topics include fitness, polymorphism, genetic equilibrium, and the effects of non-random mating and selection.

BIO 534. Advanced Ecology (4) Prerequisite: Course in general ecology. Advanced topics in population dynamics, community ecology, and ecosystem energetics. Emphasizes current issues in these fields and research methodology to address ecological questions. Three lecture and three laboratory hours each week.

BIO 535. (435) Molecular Genetics (3) Prerequisite: A course in genetics, biochemistry, or cell physiology. An overview of current understanding of the nature, function, and control of genes. Topics include the nature of genetic information; the sequence organization and packaging of the eucaryotic genome; DNA, RNA, and protein systhesis; recombinant DNA technology; RNA processing; transposable genetic elements; and antibody diversity synthesis and function.

BIO 536. (436) Recombinant DNA Techniques (2) Prerequisite: Course in genetics, physiology, or biochemistry. Basic principles and techniques of gene cloning using all three major types of cloning vectors: lambda phage, plasmids, and the single stranded DNA phage M13. Provides hands-on experience in recombinant DNA methodology. One lecture and four laboratory hours each week.

BIO 537. (457) Ichthyology (4) Prerequisite: Course in general zoology. The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

BIO 538. Cytogenetic Methodology (2) Prerequisite: Course in genetics. Laboratory course introducing techniques for studying and analyzing the chromosomes of a variety of organisms including plants and animals. Four laboratory hours each week.

BIO 539. Advanced Topics in Population Biology (2-4) Prerequisite: Courses in genetics and ecology or permission of instructor. Study of the ecology, genetics, and evolution of populations. Topics include dynamics of population structure, growth, and regulation; natural selection and the maintenance of genetic variation within populations; differentiation of populations and speciation; evolution of population strategies. Lecture hours each week

BIO 540. (465) Biochemistry (3) Prerequisite: Course in organic chemistry. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms.

BIO 541. (420) Pathophysiology (3) Prerequisite: Permission of the instructor. Survey of the physiologic and biologic manifestations of disease, emphasizing how alterations in structure and/or function disrupt the human body as a whole. Overall mechanisms of disease are introduced and described to allow coverage of specific diseases within each system.

BIO 544. (440) Developmental Biology (4) Prerequisite: Course in genetics. Concepts of mechanism and control in development. Topics include cell lineage determination, differential gene activity, cell recognition phenomena, hormones, and environmental control of development. Plant and animal systems studied in modern research literature are discussed. Three lecture and three laboratory hours each week.

BIO 545. (445) Marine Physiology (4) Prerequisite: Course in cellular or animal physiology. Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion, and movement. Three lecture and three laboratory hours each week.

BIO 549. Advanced Topics in Animal Physiology (4) Prerequisite: Permission of instructor. Study of topics in animal physiology for which significant new understanding has been obtained. Consideration is given to those emergent techniques that have permitted the application of scientific methodology to particular physiological problems. Three lecture and three laboratory hours each week.

BIO 550. Vertebrate Systematics (4) Prerequisites: Courses in two of the following: ichthyology, herpetology, ornithology, mammalogy. A study of the processes of speciation in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures are discussed. Three lecture and three laboratory hours each week.

BIO 551. Advanced Vertebrate Biology (2) Prerequisite: Permission of instructor. Individualized instruction in the identification, classification, and ecology of the terrestrial vertebrates of the coastal zone with emphasis on field methodologies. Designed to fill

gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

BIO 552. (462) Deep Sea Biology (3) The biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea.

BIO 553. Natural History of Intertidal Organisms (3) Prerequisite: Course in invertebrate zoology or permission of instructor. Study of characteristics of invertebrates inhabiting the intertidal zone. Topics include physical and biological features defining zonation, recruitment, competition, and other factors regulating intertidal populations. Two lecture hours and field work each week.

BIO 554. (452) Mammalogy (4) Prerequisite: Course in general zoology. A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions include collection, identification, and preparation of specimens and observations of mammals in the field. Three lectures and three laboratory hours each week.

BIO 556. (456) Ornithology (4) Prerequisite: Course in general zoology. An introduction to the life of birds. Emphasis is on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

BIO 557. (454) Herpetology (4) Prerequisite: Course in general zoology. A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Three lecture and three laboratory hours each week.

BIO 558. Biology of Recreational and Commercial Fishes (3) Prerequisite: Course in ichthyology or permission of the instructor. A study of the major groups of fishes and invertebrates utilized in fisheries, with emphasis on the biology, economic importance, and management of selected groups. Topics focus on contemporary management strategies and needs. Two lecture and three laboratory periods each week.

BIO 559. (481) Marine Invertebrate Zoology (4) Prerequisite: Course in general zoology. A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

BIO 560. Estuarine Biology (4) Prerequisite: Course in general ecology or permission of instructor. An examination of the unique physical, chemical, and biological interactions within estuaries, emphasizing nutrient cycles and energy flows. Three lecture and three laboratory hours each week.

BIO 561. Barrier Island Ecology (3) Prerequisite: Course in general ecology or permission of instructor. Survey of vegetation and physiography of barrier islands. Two lecture and three laboratory hours each week.

BIO 562. Coastal Ecosystems (3) Prerequisite: Course in general ecology or permission of instructor. Ecology and current regulations and management of coastal plain communities. Two lecture and four laboratory hours each week.

BIO 563. Physical Oceanography (4) Prerequisite: Permission of instructor. Dynamics and physics of the ocean with emphasis on the physical properties of sea water, flow dynamics, and circulation. The laboratory emphasizes instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

BIO 564. Biological Oceanography (3) Prerequisite: Permission of instructor. Discussion of factors that control the distribution of marine organisms. Topics include characteristics of marine biomes; comparisons of tropical, temperate, and polar seas; biology of the continental shelf and Gulf Stream; comparisons of pelagic and benthic communities; and physiological adaptations.

BIO 565. (458) Fisheries Biology (4) Prerequisite: Courses in ichthyology, and statistics, and permission of instructor. Advanced studies in the biology of fishes. Topics include age, growth, foods, parasites, population dynamics, reproduction, and economic pressure. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

BIO 566. Behavioral Ecology of Reef Fishes (3) Prerequisite: Course in ichthyology or permission of instructor. An ecological and ethological approach to the study of reef fishes, including theories and problems dealing with ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

BIO 567. (460) Limnology (4) Prerequisite: Course in inorganic chemistry or permission of instructor. An examination of the physical, chemical, and biological characteristics of freshwater systems, particularly lakes, with an emphasis on the interrelationship of these characteristics. Three lecture and three laboratory hours each week.

BIO 569. Advanced Oceanography (4) Prerequisite: Course in descriptive oceanography. Considers mechanisms and dynamics of the ocean; the physical processes propelling oceanic currents, the reception and transmission of energy, and its influence upon living systems, statics and dynamics of waves, chemical distribution in the sea and their influence upon living marine organisms, dynamics of fertility, and productivity in the marine environment. Three lecture and three laboratory hours each week.

BIO 570. (468) Planktonology (4) Prerequisite: Course in invertebrate zoology or consent of instructor. Classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

BIO 571. (446) Phycology (4) Prerequisite: Course in general botany. A survey of algal groups including benthic planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and

preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

BIO 572. (472) Marine Phycology (4) Prerequisite: Course in general botany. An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

BIO 574. (475) Plant Taxonomy (4) Prerequisite: Course in general botany. An introduction to identification, classification, and nomenclature of vascular plants with emphasis on the flora of southeastern North Carolina. Two lecture and four laboratory hours each week.

BIO 575. Taxonomy of Aquatic and Wetland Plants (3) Prerequisite: Course in plant taxonomy or permission of instructor. Discussion, collection, and identification of vascular plants found in the aquatic and wetland habitats of coastal North Carolina. Extensive field work and individualized instruction in collection and identification techniques. Two lecture and three laboratory hours each week.

BIO 576. (474) Comparative Morphology of Vascular Plants (4) Prerequisite: Course in general botany. An in-depth study of the major groups of vascular plants with emphasis on structure, life histories, development, and phylogeny. Three lecture and three laboratory hours each week.

BIO 577. Experimental Mycology (3) Prerequisite: Graduate status. An accelerated introduction to general mycology with emphasis on the role of fungi as friend and foe in various ecosystems. The use of fungi as experimental tools as well as modern technology useful to their study are considered. Two lecture and three laboratory hours each week.

BIO 579. Advanced Topics in Organismic Biology (2-4) Prerequisite: Permission of instructor. Advanced study of the ecology, natural history, behavior, or systematics of selected groups of organisms. Lecture and laboratory hours each week.

BIO 580. (480) Field Studies in Biology (1-6) A research experience-oriented field course offered in selected regional locales. Emphasis is placed on distribution, taxonomy, and ecology of animal and/or plant organisms.

BIO 585. (485) Special Topics in Advanced Biology (1-6) Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

BIO 591. Directed Independent Study (1-3)

BIO 594. Practicum in College Biology Teaching (2) An introduction to theory, research, and practice in college biology teaching. Combines supervised internship in introductory biology with formal classroom instruction. For graduate students who have been

awarded teaching assistantships in the Department of Biological Sciences and others with permission of instructor.

BIO 596. Critique of Scientific Literature (1) Review and critique of grant proposals, manuscripts, and published papers pertaining to biological research.

BIO 599. Thesis (1-6)

MASTER OF SCIENCE IN CHEMISTRY

The Department of Chemistry offers a program of study leading to the Master of Science degree in chemistry. The objectives of this program are to give students who have an undergraduate foundation in chemistry the opportunity to engage in advanced course work, in-depth study, and independent research, in order to acquire the skills of assimilating known information and generating new knowledge. These problem-solving skills will provide the foundation for future contributions by the graduates in various areas of chemistry, whether they seek employment directly or choose to undertake further graduate study elsewhere.

Admission Requirements

Applicants seeking admission to the graduate program in chemistry are required to submit the following to the Graduate School:

1. An official application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative and advanced chemistry)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination is expected. Scores on the Advanced Chemistry portion of the Graduate Record Examination will be used for diagnostic purposes. A bachelor's degree with a concentration in chemistry from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, along with a "B" average or better in chemistry courses. Admission decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. Programs leading to the Master of Science degree require a minimum of 30 semester hours of graduate study. Up to six credit hours of graduate courses in other natural and mathematical sciences may be approved by the student's advisory committee. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.

2. Deficiencies in a student's undergraduate preparation will be ascertained by a committee of faculty members in the Department of Chemistry. Placement tests in the basic areas of chemistry may be administered to incoming students at the discretion of the faculty committee to assist with evaluation of deficiencies. Any deficiencies must be remedied prior to graduation.

3. The student must successfully complete a written and an oral comprehensive exam.

4. The student must demonstrate computer proficiency.

5. A thesis reporting the results of the student's original research project must be submitted by the student and approved by the student's advisory committee. An oral defense of the thesis is required. Each student will present a seminar on his or her research project.

6. The program shall be completed within five years of the date of first registration for graduate study.

Required Courses

CHM 501 Introduction to Chemical Research (1)
CHM 595 Graduate Seminar (1)
CHM 599 Thesis (6)
And at least two of the following courses:
CHM 516 Advanced Chemical Synthesis (3)
CHM 536 Spectroscopy (3)
CHM 521 Thermodynamics (3) or CHM 522 Rates and Mechanisms (3)

GRADUATE PROGRAM IN CHEMISTRY

Course Descriptions

CHM 501. Introduction to Chemical Research (1) Scientific proposal and manuscript preparation. Communication techniques. Experimental design and data analysis. Computer applications. Library use. Laboratory safety. Two hours each week.

CHM 515. (415) Advanced Organic Chemistry (3) Prerequisite: Two semesters of organic chemistry. Theoretical and physical organic chemistry, including chemical bonding, stereochemistry, and conformational analysis with applications to selected reaction mechanisms.

CHM 516. Advanced Chemical Synthesis (3) Prerequisite: Inorganic chemistry and two semesters of organic chemistry, or permission of instructor. Modern organic and inorganic synthesis with emphasis on carbanion and free radical intermediates. Synthesis and use of organometallic compounds. Chemical oxidations and reductions. Formation of ring systems.

CHM 517. (417) Medicinal Chemistry (3) Prerequisite: Two semesters of organic chemistry. Systematic study of the chemistry and biological activity of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents.

CHM 521. Chemical Thermodynamics (3) Prerequisite: Physical chemistry, including chemical thermodynamics. Basic concepts and principles of chemical thermodynamics as derived from the Laws of Thermodynamics. Applications of thermodynamic principles to chemical and phase equilibria, solutions of electrolytes, and electrochemistry.

CHM 522. Rates and Mechanisms (3) Prerequisite: Physical chemistry. Chemical kinetics and reaction mechanisms. Transition state and collision theories. Catalysis.

CHM 535. (435) Advanced Analytical Chemistry (2) Prerequisites: Physical chemistry and quantitative analysis or analytical chemistry. Theory of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (CHML 535).

CHML 535. (CHML 435) Advanced Analytical Chemistry Laboratory (2) Prerequisite or corequisite: CHM 535. Applications of modern analytical instrumentation and techniques. Four laboratory hours each week.

CHM 536. Spectroscopy (3) Prerequisite: Organic chemistry. Fundamentals of interaction of electromagnetic radiation with matter. Principles and applications of vibrational, electronic, multinuclear magnetic resonance, electron spin resonance, Raman, x-ray and gamma ray spectroscopic methods.

CHM 546. (446) Advanced Inorganic Chemistry (3) Prerequisite: A physical chemistry based course in inorganic chemistry. Advanced topics in theoretical inorganic chemistry.

CHM 565. (465) Biochemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Study of the physical structures of carbohydrates, lipids, amino acids, proteins, nucleic acids, vitamins and minerals, and the chemical principles governing their biological activity. Special emphasis will be given to enzyme kinetics, solution properties of macromolecules, and the thermodynamic principles of intermediary metabolism.

CHML 565. (CHML 465) Biochemical Techniques and Instrumentation (1) Prerequisite or corequisite: Biochemistry. Theory and practice of biochemical techniques, including buffer and reagent preparation, protein assay, protein purification, electrophoresis, enzyme kinetics, tryptic peptide digestion, membrane vesicle construction, DNA isolation, and radioisotope detection. Three laboratory hours each week.

CHM 575. (475) Chemical Oceanography (3) Prerequisite: General chemistry. An oceanography course is recommended. Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. Estuarine reactions, air-seawater and sediment-seawater reactions, and human impact on the oceans.

CHM 576. (476) Chemical Analysis of Natural Waters (2) Prerequisite: Permission of instructor. Chemical analysis of natural waters, including river water, lake water, ground water, rain water, and seawater. Analytical methods will be evaluated with respect to appropriate applications. Analyses include salinity, chloride, dissolved oxygen and oxygen demand, pH and alkalinity, nutrients, chlorophyll, suspended material, and dissolved metals. One lecture and three laboratory hours each week.

CHM 585. (485) Industrial and Polymer Chemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Properties, synthesis, and reactions of major industrial chemicals; synthetic plastics, polyesters, polyamides, and rubbers; soaps and detergents; petrochemicals; paints and pigments; dyes; explosives; pulp and paper; pharmaceutical and nuclear industries; mechanism of polymerization, copolymerization; physical and chemical properties of polymers; polymer characterization; advances in polymer technology.

CHM 591. Directed Individual Study (1-3) Chemical research not related to thesis work.

CHM 592. Special Topics (1-3) Study of a topic or technique in chemistry not covered in regular courses. May be repeated for credit.

CHM 595. Graduate Seminar (1) Discussion by students, faculty, and guest lecturers of research ideas and/or research results. May be repeated one time for credit

CHM 599. Thesis (1-6) Laboratory research for thesis and thesis preparation.

MASTER OF ARTS IN ENGLISH

The Department of English offers a program of study leading to the Master of Arts degree in English. Students, in consultation with their advisors, tailor their course schedules to their own career objectives and interests, selecting a variety of courses in literature, language, rhetoric and composition, and creative or professional writing.

This program is designed for those who wish to become more professionally competent as writers, editors or writing consultants in business, industry, or government, those intending to pursue doctoral study in English, and those with a keen interest in contemporary approaches to literary texts, literary theory, and composition theory. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in English are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (no more than five years old)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination, a satisfactory response to the essay question attached to the application form, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and a strong overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for admission.

The deadline for receiving applications is June 1 for the fall semester and November 1 for the spring semester. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, including ENG 501, Introduction to Research Methods in English, and ENG 502, Introduction to Literary and Writing Theory. At least 24 semester hours must be completed in residence at UNCW.

2. A maximum of six semester hours may be transferred from another accredited institution or from coursework taken as a non- degree student at UNCW. Grades on transfer work must be equivalent to "B" or better.

3. A written comprehensive examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

4. The student will present and defend a thesis, acceptable to student's graduate advisory committee, prior to graduation. The thesis defense will be open to the public.

5. Students must complete the program within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN ENGLISH

Course Descriptions

ENG 501. Introduction to Research Methods in English (3) Analysis of the content of English studies, stressing bibliographic tools and the aims and methods of literary and writing research.

ENG 502. Introduction to Literary and Writing Theory (3) Analysis of the philosophical, historical, and social foundations of literary and writing theory. Emphasis on problems of meaning, interpretation, and evaluation. Examination of relevant critical figures and schools in historical context.

ENG 504. (430) The Age of Chaucer (3) A survey of works written in medieval England. Included are The Canterbury Tales, selections from Chaucer's other works, and representative works in such genres as chronicle, biography, epic, romance, dream vision, and drama.

ENG 505. (431) The Age of Elizabeth (3) English literature in the sixteenth and early seventeenth centuries. Works studied include poetry by Spenser and Shakespeare, plays by Marlowe and Jonson, and prose by More and Sidney.

ENG 506. (432) The Age of Milton (3) Emphasis on the works of Milton. Also includes works by Donne, Herbert, and Bacon.

ENG 507. (462) Studies in the Novella (3) Types of the novella or short novel, with emphasis upon its distinctive features and development as a genre.

ENG 508. (463) Studies in Non-Fiction (3) Types of nonfiction prose, including biography, autobiography, memoirs, journals, and various forms of essay. Works from a variety of periods, authors, and traditions.

ENG 509. (490) Special Topics in Literature (3) The study of a selected theme, movement, period, influence, or genre. Content varies from semester to semester. May be repeated for credit under different subtitles.

ENG 510. Folklore (3) Study of the theory and history of folklore, customary modes of behavior, informal systems of communication, and the theory and practice of folklore collecting. Fieldwork project required.

ENG 520. Linguistics (3) Study of diverse aspects of human language, with particular attention to American English. Topics include analysis of principles of sound formation, syntax, and meaning; sociolinguistics and psycholinguistics; language acquisition and development in children.

ENG 522. History of the English Language (3) Study of the development of the English language from Old English to contemporary American dialects. Includes study of cultural, political, and linguistic factors affecting language change.

ENG 523. Modern English Grammar (3) Study of the structure of the English language, using modern methods of analysis.

ENG 524. Semantics and the English Language (3) Study of the effect of language upon thought and behavior. Particular attention is paid to practical applications of semantic theory.

ENG 525. Seminar in Linguistics (3) In-depth study of a topic in linguistics. May be repeated for credit under different subtitles.

ENG 530. Creative Writing (3) Writing instruction in four genres: essay, poetry, fiction, and drama. Comparison of techniques in the genres and analysis of work by students and professional authors.

ENG 542. Poetry Writing (3) Instruction in writing poetry, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 544. Fiction Writing (3) Instruction in writing fiction, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 550. Workshop in Advanced Writing (3) Intensive work, on an advanced level, in a specific area of writing. Topics may include essay writing, technical writing, magazine writing, writing for publication in professional journals, or journalism. May be repeated for credit under different subtitles.

ENG 552. Theories of Composition (3) Analysis of theories related to the composing process, including the social and psychological nature of writing. Critique of research and a review of critical studies.

ENG 553. Studies in Composition (3) Study of a topic in composition. Topics vary; typical offerings could include history of rhetoric, the work of one or more theorists, or theories of reading and writing. May be repeated for credit under different subtitles.

ENG 560. Topics in British Literature (3) Study of major periods in British literature. Periods may include old and middle English literature, British literature of the Renaissance, Restoration and eighteenth-century British literature, nineteenth-century British literature, twentieth-century British prose, or twentieth-century British poetry. May be repeated for credit under different subtitles.

ENG 561. Topics in American Literature (3) Study of major periods in American literature. Period may include American literature to 1865, American literature from 1865 to 1914, American literature from 1914 to 1945, or American literature since 1945. May be repeated for credit under different subtitles.

ENG 563. Topics in World Literature (3) Study of major traditions in world literature. Topics may include European literature or Third World literature. May be repeated for credit under different subtitles.

ENG 571. Literature for Adolescents (3) A reading course in the literature of selected writers who emphasize distinctive roles, experiences, feelings, and problems of adolescence. Special emphasis given to evaluating the literature studied in terms of its aesthetic appeal and its cultural significance.

ENG 572. Literary Criticism: The Major Statements (3) An historical and analytical survey of influential approaches to the study of literature, from Plato and Aristotle to Matthew Arnold, T.S. Eliot, and Stanley Fish, with attention to practical application.

ENG 580. Special Studies in Literature (3) Intensive examination of a special area of literary study. May be repeated for credit under different subtitles.

ENG 591. Directed Independent Study (3) May be taken only once, and may not be taken concurrently with ENG 599.

ENG 599. Thesis (1-6)

MASTER OF SCIENCE IN GEOLOGY

The Department of Earth Sciences offers a program of study leading to the Master of Science degree in geology. The specific goals of the program are to provide advanced research and educational opportunities in the geological sciences and to prepare geologists for solving contemporary problems in sedimentary geology. Specific objectives of the program are: (1) to develop research competence in sedimentary geology; (2) to develop professional competence in the assessment of potential water, energy and mineral resources; (3) to develop a level of research competence in geology that encourages continued effort toward the doctoral degree; and (4) to provide the scientific community with meaningful research data on marine, coastal, and coastal plains geology.

Admission Requirements

Applicants seeking admission to the graduate program in geology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced geology)
4. Three recommendations by individuals in professionally relevant fields

Students seeking admission to the graduate program in geology must hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program, have a strong overall academic record with a "B" average on the basic courses prerequisite to geology, and satisfactory scores on the Graduate Record Examination. We accept students to our program who hold bachelor's degrees in any of the biological, physical, or mathematical sciences. All students must have completed course work in mineralogy, petrology, invertebrate paleontology, stratigraphy, structural geology, an approved summer field course in geology, and two semesters each of chemistry, physics, and calculus. Upon entrance into the master's program, the department's graduate coordinator ascertains deficiencies and recommends remedies. All deficiencies must be removed before a student is accepted as a candidate for the degree.

Degree Requirements

1. The program requires at least 30 semester hours of graduate credit, with a maximum of six credit hours for the thesis and three credit hours for seminars. A maximum of six semester hours of graduate credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate courses must be completed at UNCW including both course work and thesis. At least 18 semester hours must be completed in geology.

2. Each student must successfully complete a comprehensive oral examination that is administered no earlier than the semester the student is enrolled in final course work.

3. Each student must complete an approved course of study within five years of the date of first registration for graduate study.

4. Each student must present and defend a thesis, based on original research, acceptable to the committee, prior to graduation. The thesis defense is open to the public.

GRADUATE PROGRAM IN GEOLOGY

Course Descriptions

GLY 510. Ancient Sedimentary Environments (3) Prerequisite: Petrology, stratigraphy, field camp. Survey of ancient sedimentary environments with an evaluation of the criteria used in their recognition in the rock record. Specific ancient sedimentary sequences are examined and compared to their modern counterparts. Field trips.

GLY 511. Clastic Petrology (3) Prerequisite: Optical mineralogy. Classification and description of sandstones and mudrocks and evaluation of their diagenesis. Application of principles to economic deposits. Laboratory exercises concentrate on microscopic and X-ray techniques of analysis. Two lecture and three laboratory hours per week. Field trips.

GLY 512. Carbonate Petrology (3) Prerequisite: Optical mineralogy. Ancient carbonate rocks and modern carbonate depositional environments. Evaluation of the diagenetic processes of cementation, dolomitization and silicification, and the relationship of carbonate rocks to economic deposits. Two lecture and three laboratory hours per week. Field trips.

GLY 515. Methods of Sedimentology (3) Prerequisite: Petrology. A survey of the parameters of sedimentation. Emphasis on the processes involved in the formation of sedimentary rocks, including their origin, transport, deposition and lithification of rock-forming minerals. Techniques of physical and chemical analyses of sediments are stressed. One lecture and six laboratory hours per week. Field trips.

GLY 531. Micropaleontology (4) Prerequisite: Invertebrate paleontology or consent of instructor. Paleobiology and geological history of microorganisms, emphasizing the classification and systematics of major microfossil groups. Three lecture and three laboratory hours per week. Field trips.

GLY 532. Biogeography (3) Prerequisite: Consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic, and evolutionary events in the past.

GLY 533. Paleoecology (3) Prerequisite: Invertebrate paleontology or consent of instructor. Principles of ecological faunal analysis as primarily applied to the marine fossil record. Emphasizes the integration of form and function, taphonomy, and community development through time, and sedimentology/stratigraphy as a synthetic approach to paleoenvironmental, paleobiological and evolutionary analyses. Applications to biostratigraphy are considered. Field trips.

GLY 535. Stratigraphic Paleontology (3) Prerequisite: Invertebrate paleontology, stratigraphy. Analysis of the stratigraphic distribution of invertebrates emphasizing the Cretaceous and Cenozoic fossil records; application of biostratigraphic principles and

techniques in the development of high-resolution relative time scales; practical experience in the stratigraphic aspects of paleontology through field, laboratory and literature research. Two lecture and three laboratory hours per week. Field trips.

GLY 540. Regional Geology of North America (3) Prerequisite: Structural geology, stratigraphy. Survey of the rocks, structures, natural resources, and tectonic histories of different regions of North America, such as the Precambrian shield, Appalachians, and Cordillera. Syntheses of theories of orogenesis.

GLY 542. Structural Evolution of Continental Margins (3) Prerequisite: Structural geology, stratigraphy. Structural characteristics and tectonic frameworks of passive and active continental margins. Comparison of modern settings and ancient analogs in the rock record.

GLY 550. Marine Geology (4) Prerequisite: Consent of instructor. Topography, sediments, structure and geologic history of the marine and estuarine environment. Three lecture and three laboratory hours per week. Field trips.

GLY 552. Coastal Sedimentary Environments (4) Prerequisite: Consent of instructor. Sedimentary processes and environments of the world's coastal systems. Emphasis on river deltas, estuaries, bays, salt marshes, barrier islands and associated inlets. Ice-bound as well as rocky coastlines also are examined. Three lecture and three laboratory hours per week.

GLY 555. Ocean Basin Sediments (3) Prerequisite: Consent of instructor. Classification and recognition of ocean-basin sediments and their spatial distribution within the sedimentary record. Additional emphasis on the effects of ocean-bottom and near bottom currents in the erosion, transport and deposition of the terrigenous and biogenic components. Techniques of physical and chemical analysis are stressed. Two lecture and three laboratory hours per week.

GLY 560. Advanced Stratigraphy (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Stratigraphic analysis of the geologic history of North America and parts of other continents. Emphasis on interpreting lithologic assemblages and stratigraphic relations in terms of modern tectonic-depositional models. Two lecture and three laboratory hours per week.

GLY 561. Coastal Plains Geology (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Origin and development of Gulf and Atlantic Coastal Plains with emphasis on stratigraphy, structure, geomorphology and tectonic history. Field trips.

GLY 563. Seismic Stratigraphy (3) Prerequisite: GLY 510 or consent of instructor. Seismic interpretation as a means of examining the stratigraphic framework of basins and continental margins. Relationships between seismic data and depositional systems. Introduction to obtaining and processing reflection data and sound propagation. One lecture and six laboratory hours per week.

GLY 571. Sedimentary Geochemistry (3) Prerequisite: one year each of chemistry, physics, and calculus. Application of geochemistry to the formation and diagenesis of

sediments and sedimentary rocks. Examination of mineral precipitation, sediment cementation, metasomatism and chemical erosion.

GLY 580. Economic Mineral Deposits (3) Prerequisite: Mineralogy, petrology and one year of chemistry. Description of metallic and nonmetallic mineral deposits that characterize island arcs, spreading centers, and intracontinental areas. Magmatic, hydrothermal, and sedimentary processes of ore formation. Three lecture hours per week. Field trips.

GLY 590. Topics in Geology (1-4) Prerequisite: Consent of instructor. Advanced special topics in geology through lectures, seminars, laboratory or field experience.

GLY 591. Directed Independent Study (1-3)

GLY 595. Seminar (1) Prerequisite: Consent of instructor. Discussion of selected areas in sedimentary geology. Two hours per week.

GLY 599. Thesis (1-6)

MASTER OF ARTS IN HISTORY

The Department of History offers a program of study leading to the Master of Arts degree in history. Specific goals of the program are: (1) to provide advanced research and educational opportunities in the study of history; (2) to prepare historians by training them in the latest research techniques, providing them with a knowledge of the most current research on historical problems; and (3) to direct students in historical research using historical documents and archives.

Admission Requirements

Applicants are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields.

The minimum requirements for admission to the graduate program in history include: satisfactory scores on the Graduate Record Examination (verbal and quantitative) and advanced placement examination, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the basic courses prerequisite to the area of proposed graduate study.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, 27 of which must be in history. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. At least 24 hours of graduate study must be completed in residence.

2. A minimum of 24 semester hours of course work, including the thesis, must be in courses open only to graduate students. Courses open to seniors and graduate students will have additional requirements and different grading for graduate students.

3. Students must complete HST 500, 12 hours in the area of concentration and nine hours of electives. Six hours beyond HST 500 must be in seminars.

4. The student must successfully complete a written comprehensive examination that will be administered no earlier than during the final semester of enrollment in course work.

5. Each student will present a thesis, acceptable to the thesis committee, prior to graduation.

6. The student must pass a competency examination demonstrating satisfactory reading knowledge of a foreign language.

7. The program shall be completed within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN HISTORY

Course Descriptions

HST 500. Historiography and Methodology (3) Introduction to problems of historical research through examination of major historical works and current techniques of research, evaluation of sources, development of bibliography, and quantitative historical

methods including the role of the computer in historical research. This course is open only to graduate students.

HST 507. (ANT 411) Advanced Field Training in Archaeology (3) Prerequisite: HST 201 or 441; graduate status, and consent of the instructor. Supervisory training for field archaeologists. Students direct specific aspects of archaeological excavation, including research design, data recovery, daily site management, and field analysis. Summers.

HST 508. (ANT 412) Historical Archaeology (3) Prerequisite: HST 201 or 441 or consent of the instructor and graduate status. Substantive investigation of the special excavation and analysis procedures, subject matter, and goals of archaeology as applied to the historic past of North America. Special emphasis placed upon historic archaeological sites in the local region. Lecture, laboratory, and field work.

HST 518. (440) Seminar: U.S. Social History (3) Intensive study of selected topics in U.S. social history. Examples of topics: African-Americans, immigrants, social movements, education, work and leisure, sexuality. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 520. U.S. Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme offered in American history. This course is open only to graduate students. May be repeated one time for credit.

HST 522. U.S. Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of American history. This course is open only to graduate students. May be repeated one time for credit.

HST 524. Conflict and Consensus in American History (3) An application of the historiographic concepts of conflict and consensus in American society to the examination of specific periods or topics in American history. This course is open only to graduate students.

HST 525. (442) Seminar: U.S. Economic History (3) Intensive study of significant themes or events in U.S. economic history from the colonial period to the present. Examples of topics: economy of Colonial America, 19th-century labor movements, economy of the Antebellum South, agricultural history. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 526. (444) Seminar: U.S. Political History (3) Intensive study of selected facets of political theory, behavior, movements, and institutions, and how political power has been used to influence the development of society. Examples of topics: New Deal politics, third-party movements, U.S. Constitution. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 527. (446) Seminar: U.S. Diplomatic History (3) Intensive examination of fundamental principles, assumptions, and objectives in the conduct of U.S. foreign policy, and of how Americans have viewed their place in the international order at various

moments in their history. Examples of topics: the diplomacy of World War II, the Cold War, arms control and disarmament. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 528. (448) Seminar: U.S. National Security History (3) Intensive examination of major themes and events in the evolution of U.S. national security and defense policy, the uses of national power, and the role of military affairs from the colonial period to the present. Examples of topics: the Vietnam War, the use of air power, U.S. imperialism. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 529. (450) Seminar: U.S. Intellectual History (3) Intensive examination of the role of ideas in American history. Examples of topics: radicalism, the Enlightenment, myth in American history, and ideas about democracy, ethnicity, equality, religion, gender. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 531. (454) Seminar: U.S. Regional History (3) Intensive examination of the economic, social, and political history of a specific region of the United States. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 540. European Colloquium (3) Readings and discussion of major research trends and schools of interpretation in selected themes in European history. This course is open only to graduate students. May be repeated one time for credit.

HST 542. European Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of European history. This course is open only to graduate students. May be repeated one time for credit.

HST 544. Studies in European Biography (3) Examination of selected figures in European history and the extent to which they shaped and were shaped by their times. This course is open only to graduate students.

HST 548. (408) Seminar: Medieval Europe (3) Research-oriented exploration of major themes and issues in history of Medieval Europe (500-1500). May not be applied toward fulfillment of graduate seminar requirement.

HST 552. (412) Seminar: Renaissance and Reformation Europe (3) Research-oriented exploration of major themes and issues in the history of Renaissance and Reformation Europe (1350-1618). May not be applied toward fulfillment of graduate seminar requirement.

HST 554. (414) Seminar: Early Modern Europe (3) Research- oriented exploration of major themes and issues in the history of Early Modern Europe (1618-1789). May not be applied toward fulfillment of graduate seminar requirement.

HST 556. (416) Seminar: Nineteenth-Century Europe (3) Research- oriented exploration of major themes and issues in the history of Europe from the French Revolution to the First World War. May not be applied toward fulfillment of the graduate seminar requirement.

HST 558. (418) Seminar: Twentieth-Century Europe (3) Research- oriented exploration of major themes and issues in the history of Europe since 1914. May not be applied toward fulfillment of graduate seminar requirement.

HST 560. Non-Western Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme or period in non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 562. Non-Western Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 564. Modernization and Revolution in the Non-Western World (3) Examination of industrialization, imperialism, nationalism, and other forces that have revolutionized traditional society in the non-Western world. This course is open only to graduate students.

HST 570. (470) Introduction to Applied History (3) A research seminar that acquaints students with the various sectors of applied history (government and public policy, archives and information management, cultural resources management, media and research organizations) and with the research methodologies unique to the field. Field trips, guest speakers, and a sponsored research project provide practical experiences for participants.

HST 572. Cultural Resources Management (3) Exploration of the theories and techniques of identifying, classifying, preserving, restoring, interpreting and managing the resources that make up this country's cultural heritage. In addition to readings, discussions, guest lectures, and field trips, students will work with public, private, and non-profit agencies directly engaged in the business of preservation, restoration, and interpretation. Special emphasis will be placed on the study of three-dimensional artifacts and the meaning of material culture to the scholar. This course is open only to graduate students.

HST 574. Museum Studies (3) An introduction to the theories and practical application of managing a museum specializing in local, state, or regional history. Through readings, lectures, field trips, and a group project, students will familiarize themselves with the following: administration, collection development, preservation, research and interpretation, exhibition, educational programs and community outreach, coordinating volunteers, and fund raising. This course is open only to graduate students.

HST 575. Historical Administration (3) Introduction to the use of historical skills in managerial or administrative settings. In addition to a survey of the literature on professionalization and the role and function of the professional in a bureaucracy, students

will gain some experience in the areas of budgeting, grantsmanship, personnel administration, short-term and long-range planning, goal-setting, and strategy development. Special emphasis will be placed on issues relative to the planning, development, and management of historic sites and properties. This course is open only to graduate students.

HST 576. (482) Community Studies (3) Provides an introduction to the methodological and practical application of community studies. Topics include: oral history, folklore, ethnography, museum and archival collection and management, and historic preservation. Students will select a research project in cooperation with one of the local museums, historical societies, public libraries, or other government agencies.

HST 581. (481) Topics in African History (3) Intensive study of a selected theme in African history. Examples of topics: slavery, the slave trade and its abolition, pre-colonial Africa, colonial and post-colonial Africa, oral history in Africa. May be repeated under a different subtitle.

HST 583. (483) Topics in Middle Eastern History (3) Intensive study of a selected theme in Middle Eastern history. Examples of topics: early Islamic conquests, the Ottoman Empire, the Arab-Israeli conflict. May be repeated under a different subtitle.

HST 585. (485) Topics in Latin American History (3) Intensive study of a selected theme in Latin American history. Examples of topics: pre-Columbian civilizations. May be repeated under a different subtitle.

HST 586. (496) Topics in the History of Science and Technology (3) Intensive study of a selected theme in the History of Science and Technology. Examples of topics include: "Positivism," "Occult Studies and the Renaissance," "The Second Industrial Revolution." May be repeated under a different subtitle.

HST 587. (487) Topics in Global History (3) Intensive study of a selected theme in global history. Examples of topics: colonialism, imperialism, industrialization, slavery, revolutionary movements. May be repeated under a different subtitle.

HST 590. Comparative Historical Studies (3) Comparison of developments in different eras or places in order to determine unique or common historical themes. This course is open only to graduate students.

HST 591. Directed Independent Study (limited to one per student) (1-3). This course is open only to graduate students.

HST 593. Problems in History (3) Investigation of selected problems in European, American, and non-Western History through discussions, development of bibliographies, or a research paper. This course is open only to graduate students. May be repeated one time for credit.

HST 596. Seminar: Topics in History (3) Advanced research on specialized topics using, where possible, primary sources. This course is open only to graduate students. May be repeated one time for credit.

HST 597. (497) Topics in Asian History (3) Intensive study of selected themes and events in Asian history not regularly covered in other courses. Examples of topics include: the Chinese Revolution, Meiji Japan, Gandhian thought, and the nationalist movements. May be repeated under a different subtitle.

HST 598. Internship in Applied History (3) Prerequisite: HST 570. Academic training and practical field experience through work with a public or private historical organization, agency, or institution. Faculty supervision and evaluation of internship activities. Students must complete 120 work hours.

HST 599. Thesis (1-6). This course is open only to graduate students.

MASTER'S DEGREE PROGRAMS IN MATHEMATICS

The Department of Mathematical Sciences offers programs of study leading to the Master of Arts or Master of Science degree in mathematics. The Master of Science track has options designed to prepare students for careers in business, industry, or government as well as for further study in mathematics. Applications from the sciences, industry, and management are stressed in course work from the areas of classical applied mathematics, operations research, statistics, and computer science. The more traditional Master of Arts track includes an option designed for secondary and community college teachers. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification. There is also an option for those who intend to pursue the Ph.D. degree and a more flexible option that may be used to build a strong, broad background in basic areas of both the pure and applied sides of mathematics. The Master of Science track has more admissions prerequisites and required course work.

Admission Requirements

Applications for admission may be made at any time. Applicants are required to submit, normally by March 15 for fall admission, the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (GRE) Aptitude Test. Applicants are encouraged to take the GRE Advanced Test in mathematics as well. Scores more than five years old will not be accepted. In cases where the opportunity to take the GRE may be limited (such as in certain foreign countries) the applicant may request a waiver or modification of this requirement. Such requests will be considered by the department on their individual merit.
4. Three recommendations from individuals in professionally relevant fields.

Each applicant also must:

5. Have a strong overall academic record and have passed, with a "B" or better average, the following undergraduate mathematics courses or their equivalent: a standard introductory calculus sequence including multivariate calculus, a course in linear algebra, and at least 15 additional semester hours of mathematics or statistics courses beyond the level of calculus.

In addition, an applicant choosing the Master of Science track must:

6. Have had an undergraduate course in calculus-based statistics and have programming experience using a modern structured language; and
7. For the option Applied Mathematics I, be fluent in FORTRAN and have taken the following undergraduate mathematics courses or their equivalent: advanced calculus, elementary numerical methods, and introductory differential equations.

Admissions decisions are based upon examination of several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission. Such individuals may be required to take additional course work to remove deficiencies or required to demonstrate proficiency in certain areas. The student's advisory committee will determine any deficiencies and recommend appropriate remedies.

To ensure that the mathematical prerequisites have been met, any student not enrolled in the mathematics degree program or the MAT mathematics track must obtain permission from the Mathematical Sciences Department to register for any graduate course offered by the department.

Degree Requirements

1. The Master of Arts degree requires 24 semester hours of course work and six hours of seminar and thesis for a total of 30 semester hours. The Master of Science degree requires 30 semester hours of course work and six hours of thesis for a total of 36 semester hours. In each case, at least 15 hours of credit (including research seminar and thesis credit) must be earned from courses open only to graduate students.

2. The student must successfully complete a written or oral comprehensive exam that will be administered no earlier than during the final semester of enrollment in course work.

3. Each student will present a thesis, acceptable to the advisory committee, prior to graduation. The student will report orally on the thesis to an audience of students and faculty during the final semester before graduation.

Course Requirements for the Master of Arts in Mathematics

Each student must complete 30 semester hours of graduate study in mathematics including:

MAT 595 Research Seminar (2), and
MAT 599 Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Mathematics - Secondary* and Community College Teaching

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. The remaining 12 hours of course work should be selected from MAT 500 (strongly recommended) MAT 502, 515, 521, 522, 531, 551, 552, 555, 581, 582; STT 505, 511, 512.

*Information on secondary certification requirements may be obtained from the School of Education.

II. Mathematics - Preparation for Further Graduate Study

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. Recommended courses:
MAT 513 Measure and Integration (3)
MAT 531 Linear Algebra (3)

C. The remaining course work must include a coherent pair of courses in mathematics or statistics, at least one of which is open to graduate students only. Acceptable pairs of courses in algebra, analysis, applied mathematics, complex analysis, linear algebra, logic, number theory, numerical analysis, probability, statistics, and topology are listed in the advising guidelines.

III. Mathematics - General

A. Required core sequences:

Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 541-542	Modern Algebra I, II
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 535-536	Linear Programming and Discrete Optimization (3,3)

B. The remaining 12 hours of course work should include a coherent pair of courses in mathematics or statistics. No more than two courses having a CSC designator and no more than two courses having a STT designator may be used to fulfill the 30-hour requirement.

Course Requirements for the Master of Science in Mathematics

Each student must complete 36 hours of graduate study in mathematical sciences including:

MAT 599 Thesis (6)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Applied Mathematics I

A. Required core sequences:

	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory (3,3)

B. Other required courses:

MAT (STT) 565	Applied Probability (3)
MAT 515	Introduction to Complex Variables (3)
MAT (CSC) 525	Numerical Analysis (3)
MAT 506	Scientific Computing (3)

C. At least two courses selected from STT 505, MAT (CSC) 509; MAT 526, 531, 533, 535, 536, 537, 563, 564, 568, 569, 570; CSC 575.

II. Applied Mathematics II

A. Required core sequences:

	MAT 535-536	Linear Programming and Discrete Optimization (3,3)
Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)

B. Other required courses:

	MAT (STT) 565	Applied Probability (3)
	MAT (STT) 569	Stochastic Processes in Operations Research (3)
Either	MAT 537	Nonlinear Programming
or	MAT 570	Simulation (3)
One of	STT 505, MAT(CSC) 509, MAT(CSC) 525 (3)	

C. The remaining course work should be selected from MAT(CSC) 504, 509, 525; MAT 506, 511, 512, 526, 531, 533, 537, 541, 570; MAT(STT) 568; STT 505; CSC 532, 575.

III. Mathematical Sciences

A. Required core sequences:

Either	MAT 518-519	Applied Analytical Methods I, II
or	MAT 511-512	Real Analysis I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 541-542	Modern Algebra I, II (3,3)

B. At least two courses selected from STT 505; MAT (STT) 565; MAT (CSC) 509, 525

C. The remaining courses may be selected from any of those required or recommended for either Option I or II of the M.S. track.

GRADUATE PROGRAM IN MATHEMATICS

Course Descriptions

MATHEMATICS

MAT 500. Introduction to Mathematical Computing (3) Prerequisite: Permission of department. Study of a structured programming language and applications on a microcomputer. Problem solving algorithms, numerical methods and graphics.

MAT 502. Survey of Applications of Mathematics (3) Prerequisite: STT 362 and either MAT 500 or computing experience. An introduction to the techniques of discrete, continuous and stochastic mathematical modeling. Model construction, data collection, and mathematical/computer analysis are emphasized. Scientific and business applications.

MAT 504. (CSC 504) Advanced Discrete Structures (3) Prerequisite: MAT 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

MAT 506. Scientific Computing (3) Prerequisite: Fluency in FORTRAN and permission of department. Introduction to scientific computations on special-purpose machines. Machine architecture, survey of current machines, array processors, parallel processing, vectorization, software, applications.

MAT 509. (CSC 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

MAT 511-512. (411-412) Real Analysis (3-3) Prerequisite: Permission of department. Advanced study of convergence, continuity, differentiation and integration in Euclidean space. The real number system, basic topology of Euclidean spaces; sequences and series; continuity, differentiation of vector-valued functions, uniform continuity; theory of integration; implicit and inverse function theorems, Stokes' Theorem.

MAT 513. Measure and Integration (3) Prerequisite: MAT 512. Abstract measure theory. Lebesgue measure, integration, convergence theorems, absolute continuity, differentiation, Radon-Nikodym Theorem, product measures, Fubini's Theorem, Lebesgue spaces, convolution.

MAT 514. Functional Analysis and Applications (3) Prerequisite: MAT 512. Introduction to functional analysis and applications to areas such as linear and non-linear differential equations, integral equations and control theory. Topics selected from Banach spaces, operators, the Hahn-Banach Theorem, open mapping and closed graph theorems, Sovolev spaces, operators in Hilbert spaces and operational calculus.

MAT 515. (415) Introduction to Complex Variables (3) Prerequisite: Advanced calculus or MAT 511. A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties; analytic functions; power series; integration, Cauchy's Theorem, Laurent series and residue calculus; elementary conformal mappings and boundary value problems.

MAT 516. Complex Analysis (3) Prerequisite: MAT 511 and 515. Advanced study of complex-valued functions. Holomorphic and harmonic functions, Cauchy's Integral Theorem, Poisson's kernel and the Dirichlet problem, conformality, the Riemann Mapping Theorem, analytic continuation. Additional topics chosen from univalent, entire, meromorphic functions; Riemann surfaces; asymptotic methods; Mittag-Leffler, Runge and Weierstrass factorization theorems.

MAT 518-519. (418-419) Applied Analytical Methods (3-3) Prerequisite: Undergraduate differential equations and advanced calculus. A thorough treatment of the solution of initial and boundary value problems of partial differential equations. Topics include classification of partial differential equations, the method of characteristics, separation of variables, Fourier analysis, integral equations and integral transforms, generalized functions, Green's functions, Sturm-Liouville theory, approximations, numerical methods.

MAT 521. (421) Number Theory I (3) Prerequisite: Permission of department. Use of algebraic techniques to study arithmetic properties of the integers and their generalizations. Primes, divisibility and unique factorization in integral domains; congruences,

residues and quadratic reciprocity; diophantine equations and additional topics in algebraic number theory.

MAT 522. Number Theory II (3) Prerequisite: MAT 521. A continuation of the study of number theory using analytic methods. Number theoretic functions; distribution of primes and the prime number theorem; the Riemann zeta function; diophantine approximation and the geometry of numbers; additional topics in analytic number theory.

MAT 525. (425) (CSC 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximations; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations. Error analysis. Certain algorithms are selected for programming.

MAT 526. Advanced Numerical Analysis (3) Prerequisite: MAT 525. Continuation of MAT 525. Rational and trigonometric interpolation, numerical integration, iterative techniques, eigenvalue problems. Numerical solution of initial and boundary value problems for ordinary differential equations, large linear systems, and partial differential equations.

MAT 531. Linear Algebra (3) Prerequisite: Permission of department. Theory of vector spaces, linear mappings and matrices. Determinants, eigenvalues, canonical forms, the Cayley-Hamilton Theorem, inner product spaces and positive definite matrices.

MAT 533. Applied Matrix Theory (3) Prerequisite: Undergraduate linear algebra and computing experience. Matrix theory and numerical techniques in linear algebra. Topics include elimination, iteration and factorization methods for systems of linear equations; minimal polynomials, eigenvalue approximations, norms and error estimates, spectral theorem, symmetric and unitary bilinear forms.

MAT 535. (435) Linear Programming (3) Prerequisite: Undergraduate linear algebra and computing experience. Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality; parametric linear programs; sensitivity analysis; modeling and computer implementation.

MAT 536. (436) Discrete Optimization (3) Prerequisite: MAT 535. Theory and applications of discrete optimization algorithms. Transportation problems and network flow problems; integer programming; computer implementation.

MAT 537. Nonlinear Programming (3) Prerequisite: Advanced calculus and MAT 535. Theory and applications for constrained and unconstrained nonlinear optimization. Theory of convex sets, convex and concave functions, Kuhn-Tucker conditions, duality, algorithm convergence; computational methods including penalty and barrier functions, gradient projection, and quadratic programming.

MAT 541. Modern Algebra I (3) Prerequisite: Permission of department. Introduction to group theory. Binary structures including semigroups and lattices; finite groups, structure theorems, Sylow theorems and applications; group actions; free groups and presentations; structure of abelian groups.

MAT 542. Modern Algebra II (3) Prerequisite: MAT 541. Introduction to rings and fields. Modules, integral domains, vector spaces. Structure of polynomial rings and their relation to linear algebra. Field extensions and Galois theory.

MAT 545. Group Theory (3) Prerequisite: MAT 541. Theory of groups. Isomorphism theorems; permutation groups and representation theorems; finite direct products and the fundamental theorem of abelian groups; the Sylow theorems and generalizations; normal series and solvable groups; extensions and semidirect products; theory of simple groups.

MAT 551. (451) Topology I (3) Prerequisite: Permission of department. A study of the basic concepts of general topology. Metric spaces, continuity, completeness, compactness, connectedness, separation axioms, product and quotient spaces; additional topics in point-set topology.

MAT 552. Topology II (3) Prerequisite: MAT 551 and knowledge of elementary group theory. An introduction to the concepts of algebraic topology. Classification of surfaces, manifolds, the fundamental group, covering spaces; additional topics in algebraic topology.

MAT 555. Modern Geometry (3) Corequisite: MAT 541. A survey of modern geometry from several perspectives. Euclidean and non-euclidean axiomatic geometries; finite geometries; projective geometry; transformations and invariants. Additional topics may include introductions to algebraic geometry, combinatorial geometry or differential geometry.

MAT 557. (457) Differential Geometry (3) Prerequisite: Advanced calculus. Theory of curves and surfaces in Euclidean space. Frenet formulas, curvature and torsion, arc length; first and second fundamental forms. Gaussian curvature, equations of Gauss and Codazzi, differential forms, Cartan's equations; global theorems.

MAT 558. Differentiable Manifolds (3) Prerequisite: MAT 557. A study of differentiable manifolds. Functions of several variables and mappings, implicit and inverse function theorems. Vector fields, tensors and forms, exterior derivatives, Lie derivatives, covariant derivatives and connections; Riemannian metrics, torsion and curvature tensors, Cartan's equations; Lie groups; submanifolds.

MAT 563. (463) Ordinary Differential Equations (3) Prerequisite: Undergraduate linear algebra and differential equations. Advanced study of ordinary differential equations. Existence and uniqueness; systems of linear equations, fundamental matrices, matrix exponential; series solutions, regular singular points; plane autonomous systems, stability and perturbation theory; Sturm-Liouville theory and expansion in eigenfunctions.

MAT 564. Applied Analytical Models (3) Prerequisite: MAT 519. Topics in applied analysis of current interest. Topics may include tensor analysis and relativity, quantum mechanics, control theory, fluid mechanics, waves, ocean circulation, and mathematical models in biology or economics.

MAT 565. (465) (STT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

MAT 568. (STT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

MAT 569. (STT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

MAT 570. Simulation (3) Prerequisite: MAT/STT 565. Study of computer simulation of discrete and continuous random processes. Generation of pseudo-random variables, discrete event simulation, simulation design, simulation languages, statistical analysis of simulation output. Applications to modeling stochastic systems in computer science, engineering, and operations research.

MAT 581. (481) Introduction to Mathematical Logic (3) Prerequisite: Permission of department. The formal study of truth and provability. Propositional calculus; predicate calculus. Gödel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or nonstandard analysis.

MAT 582. Set Theory (3) Prerequisite: MAT 581. An account of contemporary set theory. The Zermelo-Fraenkel axioms, ordinals and cardinals, models of set theory. The concepts of large cardinals, constructibility and the independence results.

MAT 592. Advanced Topics in Mathematics (3) Prerequisite: Consent of instructor. Advanced topics of current interest in pure and applied mathematics not covered in existing courses.

MAT 595. Research Seminar (2) Prerequisite: Consent of instructor. Designed to give the student experience in locating and learning mathematics outside the classroom setting. Use of the major mathematics journals, professional society publications and standard references including Mathematical Reviews. The nature of research in the mathematical sciences and research methodology.

MAT 599. Thesis (1-6)

COMPUTER SCIENCE

CSC 504. (MAT 504) Advanced Discrete Structures (3) Prerequisite: CSC 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

CSC 509. (MAT 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

CSC 525. (425) (MAT 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximation; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations; error analysis. Certain algorithms are selected for programming.

CSC 532. (432) Advanced Data Structures (3) Prerequisite: Undergraduate linear algebra and data structures. Advanced topics in data structures, with emphasis on algorithmic complexity. Recursive list manipulations; paradigms of search; bi-connectivity, strong connectivity, and precedence relations in graphs; pattern matching; search trees; methods for memory management and secondary storage; optimal techniques for sorting, merging, and selection.

CSC 575. Advanced Computer Graphics (3) Prerequisite: Undergraduate linear algebra, elementary numerical methods, data structures, and some prior familiarity with graphics. Brief review of two-dimensional graphics. Topics may include: approximation methods for curves, representations for solids, transformations, projections, hidden lines and surfaces, ray tracing, radiosity. Extensive programming required.

CSC 592. Topics in Computing (3) Prerequisite: Consent of instructor. Topics in computing of current interest not covered in existing courses.

STATISTICS

STT 505. Data Analysis (3) Prerequisite: STT 362. Introduction to exploratory data analysis. Use of stem and leaf plots, boxplots. Transformations of data, resistant lines, analysis of two-way tables, residual analysis. Comparison of robust/resistant methods with standard statistical techniques.

STT 511. (411) Design of Experiments and Analysis of Variance (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; design of experiments

including completely randomized, randomized block, factorial, split-plot, and repeated measures designs; analysis of variance; non-parametric alternative methods of analysis. Statistical software packages will be used as appropriate in problem solving.

STT 512. (412) Applied Regression and Correlation (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; linear and multiple regression; correlation. Statistical software packages will be used as appropriate in problem solving.

STT 530. (430) Introduction to Non-parametric Statistics (3) Prerequisite: STT 362. Theory and methods of non-parametric statistics in the one- and two-sample problems and their comparisons with standard parametric procedures. Non-parametric tests for comparing more than two samples; tests of randomness and independence.

STT 540. (440) Linear Models and Regression Analysis (3) Prerequisite: STT 362. Theoretical introduction to the general linear model and its application to simple linear regression and multiple regression. Estimation and hypothesis testing of model coefficients; residual analysis; analysis of covariance.

STT 565. (465) (MAT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

STT 566-567. (466-467) Mathematical Statistics (3-3) Prerequisite: STT 362. A rigorous introduction to mathematical statistics. Univariate and multivariate probability distributions; conditional and marginal distributions; theory of estimation and hypothesis testing; limiting distributions and the central limit theorem; sufficient statistics and the exponential class of probability density functions.

STT 568. (MAT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

STT 569. (MAT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting-room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

STT 592. Topics in Statistics (3) Prerequisite: Consent of instructor. Topics in statistics of current interest not covered in existing courses.

THE CAMERON SCHOOL OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION

The Cameron School of Business Administration offers a program of study leading to a Master of Business Administration degree for any qualified holder of a bachelor's degree from an accredited college or university regardless of undergraduate field of study.

The program's purpose is the development of the broadly educated professional manager.

Specific objectives include:

Preparation in the traditional functions of business, such as accounting, economics, finance, marketing, business regulation and legal environment, information systems, organizational behavior, and operations management;

Preparation for the current and future challenges facing the leaders of tomorrow with emphasis on such key areas as communications, organizational change, international business, social responsibility, and ethics, strategic planning and corporate policy;

A program designed for active participation of leaders in the business and professional community; and

Quality instruction by well-qualified and experienced faculty, with classes scheduled for evening students.

Admission Requirements

Applicants seeking admission to the graduate program in business administration are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Management Admission Test (GMAT)
4. Three recommendations including one from an employer or supervisor who can comment on the applicant's work experience and potential for successful completion of a master's program.

A strong overall academic average, a total score of 1,000 or more based on the formula: 200 times the upper division grade point average (4.0 systems) plus the GMAT score, and at least one year of appropriate full-time work experience are minimum requirements for consideration for graduate admission. However, admission decisions are based upon several factors, and if other indicators of success are evident, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. 54 semester credit hours of approved graduate credit must be satisfactorily completed for the degree. This number of credit hours may be reduced for students who qualify for, and are granted, certain course waivers. Petitions for waiver are submitted to the dean of the Cameron School of Business Administration upon acceptance for admission into the program. Despite the number of waivers granted, a minimum of 42 semester hours of graduate study must be completed. Up to six hours of graduate study may be accepted as

transfer from an accredited college or university. However, the last 36 hours of graduate study must be completed at the University of North Carolina at Wilmington.

2. The student must satisfy a minimal mathematics requirement in calculus. This requirement may be satisfied by completing MAT 151, its equivalent, or by passing the Advanced Placement Test (AB) in calculus.

3. The student must successfully complete an oral comprehensive examination.

4. Each student must complete the approved course of study within five years of the date of first registration for graduate study.

Course Requirements for the Master of Business Administration Degree

Students with undergraduate or graduate work in business administration may have the program of study reduced through waivers for certain courses. Students with no prior work in business administration will be required to take the following program.

A. Core Requirements (24 semester hours)

The following courses comprise the core of knowledge essential to a basic understanding of modern business and managerial practice.

These courses must be completed by each student unless evidence is presented of substantial academic work in such courses at the undergraduate or graduate level. Requirements may be waived on a course-by-course basis by the MBA Coordinator, subject to approval of the dean of the Cameron School of Business Administration.

ACG	501	Financial Accounting (3)
ECN	520	Economic Analysis I (3)
PDS	513	Quantitative Methods (3)
PDS	518	Management Information Systems (3)
BLA	560	Legal Environment and Business Regulation (3)
MGT	550	Organization Theory and Behavior (3)
FIN	535	Managerial Finance (3)
MKT	540	Marketing Management (3)

B. Professional Competence and Integrative Applications (24 semester hours)

In addition to the Core Requirements, the following courses develop depth and breadth of knowledge and provide analytical skills for practical application.

ACG	502	Managerial Accounting (3)
ECN	521	Economic Analysis II (3)
MGT	555	Practice of Management (3)
PDS	517	Production/Operations Management (3)
MGT	565	Current Issues in Business (1-1-1)
MGT	595	Corporate Policy and Strategy (3)
FIN	536	Financial Policy (3)
MKT	546	Strategic Marketing (3)

C. Electives (six semester hours)

Candidates will strengthen their knowledge and sharpen their skills in particular areas by taking at least two courses from the elective areas: accountancy, economics, management, marketing, finance, production and decision sciences.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

Course Descriptions

ACCOUNTANCY

ACG 501. Financial Accounting (3) An intensive course in accounting principles with special emphasis on the concepts underlying income determination, preparation and interpretation of financial statements and the managerial uses of accounting information. Topics include transaction analysis, asset valuation and expense and revenue recognition, capital structure and tools of financial analysis.

ACG 502. Managerial Accounting (3) Prerequisite: ACG 501. Interpretation and use of accounting information in the planning, coordination and controlling of business activities. Topics include cost behavior, manufacturing and distribution cost-volume-profit relationships; effects of taxation and price-level changes on business decisions; budgeting and responsibility accounting. Case studies emphasized.

ACG 503. Advanced Managerial Accounting (3) Prerequisite: ACG 502. An in-depth study of cost concepts appropriate for decision-making and of the budgetary procedures used in planning and control. Emphasis is placed on relating recent advances in the quantitative and behavioral sciences to the role of the contemporary managerial accountant. Case analysis is emphasized.

ACG 506. Current Issues in Financial Accounting (3) Prerequisite: ACG 501. Advanced study of the principles and theory underlying the preparation of financial statements. Consideration is given to the problems related to pension plans, long-term leasing arrangements, refunding of bonds outstanding, allocation of income taxes, changing price levels, and other controversial issues. Utilizes text, authoritative statements, and articles from the current literature.

ACG 508. Taxation and Business Decisions (3) Prerequisite: ACG 501. The accounting and managerial effects of taxation upon decisions, policies, and procedures in the planning, organization, and operation of a business enterprise. Areas covered include the taxing process; taxation of individuals, corporations and fiduciaries; investment incentives; capital gains and losses; tax shelters; and tax planning. Problems and case analysis are used.

ACG 565. Current Issues in Business (1-1-1) (see MGT 565.)

ACG 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

BUSINESS LAW

BLA 560. Legal Environment and Business Regulation (3) A study of the management process and how it is influenced by the constitutional, legislative, judicial, regulatory, administrative, and social forces exerted on the business and social environment.

BLA 565. Current Issues in Business (1-1-1) (See MGT 565.)

BLA 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MANAGEMENT

MGT 550. Organization Theory and Behavior (3) Study of historical, theoretical and practical foundations for understanding organizational structure, behavior and performance. Emphasis on problem solving issues and applications in design, leadership, motivation and interpersonal communications.

MGT 555. Practice of Management (3) Prerequisite: BLA 560 and MGT 550. Major problems and decision areas confronting middle and upper-level managers. Topics include long-range planning, management by objectives, project management, leadership style, and performance appraisal. Case analysis is used to foster application of current managerial techniques to the analysis, solution, and prevention of organizational problems.

MGT 556. Human Resource Systems (3) Prerequisite: MGT 550. A study of manpower planning, training and development, job analysis, employee evaluation, labor legislation, history of the labor movement and the processes for negotiating and establishing workplace rules and procedures. Designed to foster understanding of the management of human resources rather than a technical orientation.

MGT 558. Organizational Behavior (3) Prerequisite: MGT 550. An examination of the persistent human problems in organizations including motivation, resistance to change, interpersonal and intergroup conflict, managing superior/subordinate relations. This course incorporates ideas from the behavioral sciences to provide a foundation for identifying and solving the human side of an organization's operations. Case studies are emphasized.

MGT 565. Current Issues in Business (1-1-1) Current and emerging issues that affect and are affected by business. Topics focus on three major categories: (1) International Business; (2) Communications and Technology; and (3) Business Trends and Developments. At least three hours are required and each candidate must include at least one hour in each of the above categories.

MGT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MGT 595. Corporate Policy and Strategy (3) Prerequisite: To be taken in the final year of the candidate's program of study. An integrative course focusing on factors considered by top-level executives in formulating both short-term and long-term corporate strategies. Particular attention is directed toward analysis of business trends, development of corporate strengths, and formulation of policies and plans. Involves extensive use of case analysis.

ECONOMICS

ECN 520. Economic Analysis I (3) Prerequisite: The mathematics of calculus. Economic analysis of demand, cost, resource allocation, and decision-making in alternative market structures for an individual firm and household perspective. Aggregate economic analysis examining monetary and fiscal policy and their effects on employment, income and the price level.

ECN 521. Economic Analysis II (3) Prerequisite: ECN 520 and PDS 513. An examination of the economic environment in which businesses make decisions. Particular attention to world-wide economic integration and decision-making in this environment. Topics emphasize government economic policy as to its effects on the cost, availability and use of funds. Hedging and financial decision-making in an international context receive special consideration.

ECN 526. International Trade and Finance (3) Prerequisite: ECN 520 and FIN 535. A study of the principles underlying world trade, exchange rate adjustments, balance of payments analysis, international financial markets, direct foreign investment, the international monetary system and the new international economic order. Discusses U.S. commercial policy, transnational corporations, international joint ventures, economic integration, preferential treatment and world-wide trading practices.

ECN 528. International Finance Instruments and Markets (3) Prerequisite: ECN 521 and FIN 535. An overview of world-wide money and capital markets. Sources, uses and cost of funds and the impact of various central banks and treasuries are analyzed from a world-wide integrated market perspective. Primary emphasis on financial decision making in an integrated world economy with flexible exchange rates.

ECN 565. Current Issues in Business (1-1-1) (see MGT 565.)

ECN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

FINANCE

FIN 535. Managerial Finance (3) Prerequisite: ACG 501 and ECN 520. Financial decision-making in the modern business organization. A study of the basic principles, concepts, and analytical tools in the primary areas of finance including valuation models, cost of capital, capital budgeting, capital structure, and working capital policy.

FIN 536. Financial Policy (3) Prerequisite: FIN 535. Conceptual foundations for theories in the major areas of financial management, the theoretical context and validity of formalized techniques for improving decision making in capital budgeting, capital structure, dividend policy, mergers, bankruptcy, the use of convertible securities, and international finance. Case studies used extensively to supplement the conceptual foundations.

FIN 537. Financial Institutions and Markets (3) Prerequisite: FIN 535. Financial institutions as suppliers of funds to the money and capital markets. Comparative financial

policies and portfolio considerations of institutions in the context of their changing market environments. The impact of the economic and regulatory climate on portfolio adjustments also are examined. Cases and bank simulation analysis used.

FIN 538. Investments and Portfolio Analysis (3) Prerequisite: FIN 535. Analysis of financial assets as appropriate investment alternatives. Analysis and evaluation of securities and portfolio management. Securities market information and theories of security selection are examined.

FIN 565. Current Issues in Business (1-1-1) (See MGT 565.)

FIN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MARKETING

MKT 540. Marketing Management (3) An examination of the major factors to be considered in the analysis, development, and control of marketing programs. Particular attention is directed to decisions concerning product service offering, price strategy, promotional methods, and the channels of distribution. Emphasis is placed on the role that marketing plays in the overall operation of the firm.

MKT 546. Strategic Marketing (3) Prerequisite: MKT 540. Major factors considered are setting marketing objectives, identifying market opportunities, selecting target markets, developing new products, formulating integrated marketing strategies, and solving marketing problems. Case analysis is used extensively to foster the application of marketing models and techniques to improve organizational performance.

MKT 548. Promotional Management (3) Prerequisite: MKT 540. Theories and practices of advertising, sales management, and sales promotion as they relate to the total marketing effort. Attention is directed to sales forecasting, media analysis, and the criteria for evaluating the results of the integrated marketing program. Case study is emphasized.

MKT 549. Marketing Research and Analysis (3) Prerequisite: PDS 513 and MKT 540. An examination of methods of gathering, processing, and analyzing information from the marketplace. Topics covered include problem identification, research design, primary and secondary sources of data, methods of data collection, scaling methods, and sampling techniques. Particular attention is directed to data-generation methods and improving marketing decision-making.

MKT 565. Current Issues in Business (1-1-1) (See MGT 565.)

MKT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

PRODUCTION AND DECISION SCIENCES

PDS 513. Quantitative Methods (3) Prerequisite: Completion of mathematics through calculus. Techniques for the analysis of business data. Topics include descriptive and inferential statistical methods, probability theory, and linear programming.

PDS 514. Advanced Quantitative Methods (3) Prerequisite: PDS 513. Quantitative techniques for the solution of business problems. Topics include mathematical programming, simulation, queueing theory, network theory, and game theory. Emphasizes the mathematical formulation and solution of problems using a computer.

PDS 517. Production/Operations Management (3) Prerequisite: PDS 513 and MGT 550. Techniques to aid the operations manager in making key decisions during the initial, online, and control stages of production. Topics include product and process design; facility size, location and layout; demand forecasting; production and work-force planning; quality control; and facilities maintenance. Formulation of problems for solution by the computer is an integral part of the course.

PDS 518. Management Information Systems (3) A study of the process of analyzing, designing, and implementing computer-based systems that have information as their product. Minicomputer and microcomputer projects provide opportunities for comparing concepts with actual systems. An introduction to the BASIC programming language and orientation on the VAX minicomputer system are integral parts of the course.

PDS 519. Advanced Business Statistics (3) Prerequisite: PDS 513. Advanced statistical applications used to support the business decision-making process. Topics include multiple linear regression, nonlinear regression, time-series analysis, experimental design, decision theory, and non-parametric statistics.

PDS 565. Current Issues in Business (1-1-1) (See MGT 565.)

PDS 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

SCHOOL OF EDUCATION

MASTER OF EDUCATION

The School of Education offers four master's degree programs in professional education: (1) a Master of Education program in elementary education, (2) a Master of Education program in reading education, (3) a Master of Education program in special education with a track in cross-categorical areas, (4) a Master of Education program in educational administration and supervision with tracks in educational administration and supervision.

Coursework in Reading Recovery™ is available to students meeting specific admissions criteria, including holding a master's degree in reading or closely related area, at least five years of teaching experience, and having the nomination of a school district, or consortium, that has filed application to become a Reading Recovery™ site. Persons successfully earning certification are qualified and approved by the National Diffusion Network to serve as teacher leaders for the Reading Recovery™ program program within public school systems. For addtional information and requirements, contact the dean's office, School of Education.

Admission Requirements

Applicants seeking admission to a graduate program in education are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Miller Analogies Test
4. Three recommendations by individuals in relevant professional fields

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in elementary education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in early childhood education, intermediate education, elementary education, or middle grades education. Applicants to the program in special education are required to hold or be qualified to hold, North Carolina Class "A" special education teacher certification in at least one area of exceptionality and are required to have taken at least one course in mental retardation, one course in learning disabilities, and one course in emotional disturbance. Applicants to the educational administration and supervision and reading programs are required to hold, or be qualified to hold North Carolina Class "A" elementary, middle grades or secondary teacher certification.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exception is appropriate may include community college administrators and teachers. In such instances, the programs may be modified appropriately. However, upon completion of the graduate program individuals admitted under such exceptions are not qualified for the institution's recommendation for North Carolina Board of Education instructional or administrative certification. (NOTE: Certification requirements change,

and requirements must be adjusted to accommodate new mandated competencies and guidelines. Students are advised to check with their advisors or the dean's office to keep abreast of changes).

Students who seek professional improvement, but do not intend to pursue a degree may register for graduate courses through procedures established for non-degree students.

Degree Requirements

Elementary Education

The program leading to the Master of Education degree in elementary education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in early childhood education (K-4), or intermediate education (4-6) or elementary education. The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and elementary specialty courses. The National Teacher Examination, specialty area, is required for certification.

I. Elementary Core

EDN	500	Human Development and Learning (3)
EDN	502	Schools and Society (3)
EDN	523	Research in Education (3)
	or	
EDN	525	Tests, Measures and Measurement in Education (3)
EDN	530	Curriculum (3)

II. Elementary Specialty Courses

Choose six courses, at least one from each of the following groups.

A. Mathematics

EDN	542	The Teaching of Mathematics (3)
*EDN	546	Diagnosis and Remediation in Mathematics (3)

B. Literacy

EDN	501	Language Development (3)
*EDN	534	Teaching Developmental Reading (3)
*EDN	535	Diagnosis and Teaching of Reading/Language Arts (3)
EDN	537	Linguistics for Teachers (3)
EDN	538	Teaching of Writing (3)
EDN	539	Children's Literature (3)
EDN	540	Adolescent Literature (3)
EDN	547	Integrating Language Arts and Reading: Classroom Practice (3)

C. Social Studies

EDN	543	The Teaching of Social Studies (3)

D. Science

EDN 544 Teaching of Science in the Elementary Schools (3)
EDN 548 Inquiry - The Method of Science (3)

III. Electives

Six semester hours.

EDN 599 Thesis may be selected (1-6 hours)

*Field-based activities will be required in this course. Such activities will be designed cooperatively and supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education, or Tests, Measures, and Measurement in Education. A comprehensive examination will be required.

Reading Education

The program leading to the Master of Education degree in reading education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification.

The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of controlled electives.

Based upon the view of the professional as decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a reading specialization with related language arts options. The National Teacher Examination, specialty area, is required for certification.

I. Reading Education Core

EDN 500 Human Development and Learning (3)
EDN 523 Research in Education (3)
EDN 525 Tests, Measures and Measurement in Education (3)
EDN 530 Curriculum (3)

II. Concentration

A. Group I (3 hours)
Select one:

EDN 501 Language Development (3)
EDN 537 Linguistics for Teachers (3)

B. Group 2 (15 hours)

EDN 505 The Reading Process (3)
*EDN 534 Teaching Developmental Reading (3)
*EDN 535 Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 536 Teaching Reading in the Content Areas (3)
*EDN 572 Practicum in Reading (3)

C. Group 3 (6 selected hours)

EDN 538 The Teaching of Writing (3)
EDN 539 Children's Literature (3)
EDN 540 Adolescent Literature (3)

EDN 545 Black Literature and Resources for Teachers (3)
*EDN 547 Integrating Language Arts and Reading: Classroom Practice (3)
EDN 559 Adult Literacy (3)
*EDN 573 The Disabled Reader (3)
EDN 599 Thesis (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed in the required course, Research in Education. A comprehensive examination will be required.

Applicants who do not hold North Carolina Class "A" teacher certification may be admitted. In such cases, the specified undergraduate courses necessary for education certification will be required in addition to the graduate courses.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Special Education

The program leading to the Master of Education degree in special education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in special education in at least one area of exceptionality. The program is cross categorical in nature with emphasis in three areas of mild handicapping conditions: mental retardation, learning disabilities, and behaviorally/emotionally handicapped. The 36-semester hour program is comprised of 15 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and three semester hours of controlled electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies, and a concentration in special education. The National Teacher Examination, specialty area, is required for certification.

I. Special Education Core (15 hours)

EDN 501 Language Development (3)
EDN 503 Exceptional Child Development (3)
EDN 511 Organizational Behavior (3)
EDN 523 Research in Education (3)
EDN 530 Curriculum (3)

II. Concentration (21 hours)

A. Group 1 (18 hours)

EDN 524 Consultation Strategies for Teachers of Exceptional Children (3)
*EDN 535 Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 546 Diagnosis and Remediation in Mathematics (3)
EDN 552 Program Development for the Mildly Handicapped (3)
EDN 553 Classroom Management of Mildly Handicapped Children (3)
*EDN 574 Practicum in Special Education (3)

B. Group 2 (3 selected hours)

EDN 504 Issues and Trends in Special Education (3)
EDN 554 Educating Young Handicapped Children (3)
EDN 555 The Mildly Handicapped Adolescent (3)
EDN 591 Independent Study (3)
EDN 595 Selected Topics in Education (related to exceptional children) (3)
EDN 599 Thesis, may be selected (6)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, Research in Education. A comprehensive examination will be required.

Students who are accepted provisionally (without at least one course in mental retardation, one course in learning disabilities, and one course in behaviorally, emotionally handicapped) must take these courses before receiving the master's degree.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

Educational Administration and Supervision

The Master of Education program in educational administration and supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instructional specialist. The 33-semester hour program is comprised of 15 semester hours of conceptual and technical studies common to both specialties, 12 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice.

Accordingly, the program is comprised of a "professional core," treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed. The National Teacher Examination, specialty area, is required for certification

I. Administration-Supervision Core

EDN 502 Schools and Society (3)
EDN 510 Organization and Control of American Education (3)
EDN 511 Organizational Behavior (3)
EDN 521 Decision-Making (3)
EDN 523 Research in Education (3)

II. Administrative Track

EDN 512 Legal Structures in Education (3)
EDN 560 Personnel Administration (3)
*EDN 561 Leadership Application (3)
*EDN 570 Internship in Educational Administration (3)
Electives, Six semester hours
or
EDN 599 Thesis, may be selected (6)

III. Supervision Track

	EDN	500	Human Development and Learning (3)
*	EDN	520	Instructional Development (3)
*	EDN	530	Curriculum (3)
*	EDN	571	Internship in Educational Supervision (3)
	Electives, Six semester hours		
	or		
	EDN	599	Thesis, may be selected (6)

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by university and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, EDN 521, Decision Making, and EDN 523, Research in Education. A comprehensive examination will be required.

MASTER OF ARTS IN TEACHING

The School of Education offers a program of study leading to the Master of Arts in Teaching degree. This program is comprised of a core of professional studies designed to enhance the instructional decision-making skills of secondary teachers and a specialization track designed to enhance knowledge of subject matter, structure of the disciplines, the appropriate modes of inquiry. The program seeks to address the continuing commitment to strengthen the university's contribution to the improvement of educational service to the clients of elementary and secondary schools in southeastern North Carolina through the Master of Arts in Teaching for secondary teachers in the following specialties: biology, chemistry, English, history, and mathematics.

The Master of Arts in Teaching program provides advanced academic and professional study and training for individuals holding, or qualified to hold, North Carolina Class "A" secondary teacher certification in one of the academic specialty fields included in the program. The program is comprised of 36 semester hours, 12 in professional education as specified below, and 24 in the academic specialty.

Admission Requirements

Applicants seeking admission to the Master of Arts in Teaching program are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields

A combined score of 1000 on the verbal and quantitative portions of the Graduate Record Examination; also, where required by the corresponding M.A. and M.S. program, applicants to the Master of Arts in Teaching program will be required to submit scores on the relevant specialty portion of the Graduate Record Examination; a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; an overall academic average of "B" or better in the basic courses prerequisite to the area of proposed graduate study; and hold, or be qualified to hold, North Carolina initial teacher certification in the area of proposed study.

Degree Requirements

1. The program requires a minimum of 36 semester hours, with 12 prescribed in professional education and 24 in the area of academic specialization. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. A written comprehensive examination addressing both the professional core and the academic specialty will be required.

3. The program shall be completed within five years of the date of first registration for graduate study.

I. Professional Core

EDN 500 Human Development and Learning (3)
EDN 520 Instructional Development (3)

EDN 523 Research in Education (3)
EDN 565 Curriculum and Instruction in Secondary Subjects (3)

II. Academic Track

A. Biology

24 semester hours are required. Of this number, three are common to all students, and 21 will be selected in consultation with the program advisement committee. The common requirements are:

BIO 501 Introduction to Scientific Research and Presentation (2)
BIO 593 Colloquium (1)

B. Chemistry

24 semester hours are required. Of this number, five are common to all students, and 19 will be selected in consultation with the program advisement committee. Within the latter category, a maximum of six semester hours may be selected from other disciplines in the natural and mathematical sciences. The common requirements are:

CHM 501 Introduction to Chemical Research (1)
CHM 591 Directed IndividualStudy (Chemical Research) (3)
CHM 595 Graduate Seminar (1)

C. English

24 semester hours are required. Of this number, 18 are specified among four areas, and six may be selected in consultation with the program advisement committee. The common requirements are:

ENG 501 Introduction to Research Methods in English (3)
ENG 502 Introduction to Literary and Writing Theory (3)
ENG 520 Linguistics (3)
ENG 572 Literary Theory and Criticism (3)

In addition, all students will select at least two courses in the study of literature, which may include EDN 545, Black Literature and Resources for Teachers (3). Students will utilize the remaining six semester hours to extend one of three areas of interest: linguistics, writing, and literature.

D. History

24 semester hours are required in the following pattern:

HST 500 Historiography and Methodology (3)

A 12-semester hour concentration, including seminar and colloquium in one of the following areas:
American history
European history
Non-western history

Six to nine semester hours selected from the two remaining concentration areas. Three semester hours may be selected from another social science or humanities discipline, but may not be included in the concentration. The program also shall meet the following additional constraints: Two additional seminar or colloquium courses and two post-1900 courses, at least one of which must be in the concentration area.

E. Mathematics
24 semester hours are required. Of this number, 12 are common to all students and 12 will be selected in consultation with the program advisement committee. The common requirements are:

MAT 511-512 Real Analysis I, II
MAT 541-542 Modern Algebra I, II

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500. Human Development and Learning (3) Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501. Language Development (3) Focus on the development of language and its relation to cognitive processes in young children. Theories of language learning and growth are explored in terms of patterns of evidence and in terms of implications for decision-making affecting school children. Concepts associated with language structure, functions, and processes are developed. A variety of language and language-education topics are explored.

EDN 502. Schools and Society (3) Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, and biculturalism.

EDN 503. Exceptional Child Development (3) Prerequisite: EDN 501. Designed to provide and understanding of the intellectual, emotional, and physical development of exceptional children. The interplay of biological and environmental factors that produce deviations in development is examined. Organized around a developmental approach to the study of exceptionality that suggests strategies for determining bases of exceptionality. Implications of development differences for the special educator will be stressed.

EDN 504. Issues and Trends in Special Education (3) Designed to focus on emerging directions related to the education of exceptional children. Relevant social, educational, bio-medical, developmental, psychological, and legal issues will be examined as well as implications for the schools.

EDN 505. The Reading Process (3) Prerequisites: EDN 523, 525, or consent of the instructor. Develops conceptualization of the process of reading in mature readers and of stages in literary development. Analysis of psychomotor and psycholinguistic parameters of reading, word recognition and sentence processing both for beginning

and advanced readers, the task of learning to read, factors affecting reading development, and of schema theories of comprehension.

EDN 510. Organization and Control of American Education (3) Designed to include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511. Organizational Behavior (3) Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social-systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512. Legal Structures in Education (3) Prerequisites: EDN 510 or approval of department. Designed (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally consistent practices.

EDN 520. Instructional Development (3) Designed to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and objective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experience.

EDN 521. Decision-Making (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities in identification and analysis of decision situations and decision alternatives, in procedures for choice and in design and analysis of educational information system. Contents will include study of alternative decision-making models, procedures for choice, evaluation of educational programs, and educational information systems. The activities will include lecture, discussion, and simulated and real applications to decision situations in schools systems.

EDN 522. Educational Media (3) Designed to provide students with the theory and practical skills necessary for selecting, producing, and evaluating instructional materials. Students will learn to produce and use a variety of audio-visual materials including graphics, transparencies, slides, and video-tapes. Instruction in operating and troubleshooting equipment also will be treated. The primary goal of this course is to develop confidence and competency in the media area. This course will include lectures and a workshop format. During the course students will produce media materials for an instructional unit.

EDN 523. Research in Education (3) Designed to develop research competencies required for interpretation and critique of research reports and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 524. Consultation Strategies for Teachers of Exceptional Children (3) Designed to develop communication skills relevant for the decision-making roles of the special education teacher. Emphasis on group dynamics, conflict resolution, generation of alternative solutions, interview procedures, parent conferences, team meetings, orientation of general educators, and mainstreaming handicapped children.

EDN 525. Tests, Measures, and Measurement in Education (3) Prerequisite: EDN 301, EDN 520, or approval of instructor. Designed to develop a conceptual framework for obtaining and interpreting data about behavioral and psychological traits of persons that may be needed for a variety of purposes. Particular attention will be given to developing understanding of validity of measures for the intended purposes and for assessing the trait that is intended to be measured. Students will learn to make judgments of validity of testing systems and to develop valid tests and testing systems. Mathematical and statistical tools will be studied for analyzing items, tests, and scores and students will practice their use. Students will learn to use computers for test development, and test administration, and to analyze records of performance on tests.

EDN 530. Curriculum (3) Develops a conceptual framework for understanding curriculum in relation to other aspects of educational systems. Students learn to evaluate curricula in terms of structural elements, underlying value orientations, and assumptions about subject matter and about learning. Introduction to issues of curriculum change, implementation, evaluation, development, and design.

EDN 531. Study of Teaching in Early Childhood Education (3) Designed to improve teaching performance and to develop competencies in the critical analyses of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532. Comparative Studies in Early Childhood Education (3) Prerequisite: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an in-depth cross-cultural survey of early childhood education in selected countries. The history of philosophical thoughts, the political and socio-economic changes and research efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533. Early Childhood Education in Focus (3) Prerequisite: EDN 500, 501, 502, or approved of department. Designed to develop the ability to look to current trends and issues in early childhood education. Objectively, this course will include critical analysis

of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 534. Teaching Developmental Reading (3) Develops understandings of an effective classroom reading program. Reviews practices, materials, and approaches for teaching basic reading skills through the analysis of research literature and critique of personal beliefs and practices.

EDN 535. Diagnosis and Teaching of Reading/Language Arts (3) Designed for the elementary, special education, and reading teachers, this course focuses on the comparison of alternative models for assisting individual learners with literacy/language learning. Students review current diagnostic tests, new diagnostic procedures, develop teaching strategies and apply those understandings to the tutoring of individual students. A diagnostic report is generated. Students are expected to articulate a position concerning the viability of models for diagnostic teaching in their school setting.

EDN 536. Teaching Reading in the Content Area (3) Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in a particular content area.

EDN 537. Linguistics for Teachers (3) A study of current American English and of the principles of analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom. Includes exploration of language related educational issues such as bilingualism, dialects, and disorders.

EDN 538. The Teaching of Writing (3) Intensive review of principles of grammar, rhetoric and usage (approximately 1/2 of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539. Children's Literature (3) Develops skills and understanding to improve teachers' competencies in formulating sound literature programs. Includes in-depth study of the functions of children's literature and criteria for evaluation of types of literature suitable for children at various developmental levels. Factors influencing change such as paperbacks, representation of minorities, sexism, and censorship will be discussed.

EDN 540. Adolescent Literature (3) A comprehensive study of literature appropriate for the middle grades, its value in the school curriculum and its importance in fulfilling intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related materials are covered. Projects related to instructional preparation and student activities are required.

EDN 542. The Teaching of Mathematics (3) Focus on materials and methods for teaching mathematics in grades K-9, with emphases on the logical, psychological, and sociological foundations of mathematics education. A survey of curricula appropriate at the K-9 level. Library research in current topics related to the teaching of mathematics.

EDN 543. The Teaching of Social Studies (3) Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544. Teaching of Science in the Elementary School (3) To assure that science at the elementary school level is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at the elementary school level. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545. Black Literature and Resources for Teachers (3) A survey of black literature, including the examination of materials published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 546. Diagnosis and Remediation in Mathematics (3) The study and application of teaching mathematics in the diagnostic mode. Included will be a historical review of diagnostic procedures in mathematics, a survey of mathematics curriculum, an examination of the theoretical models of diagnosis and of materials useful to the classroom teacher or clinician. Intensive work with children experiencing difficulty in mathematics will be required.

EDN 547. Integrating Language Arts and Reading: Classroom Practice (3) Develops student ability to conceptualize and implement a classroom communication arts program. Analyzes patterns of learning and practices in teaching language arts processes and skills. Examines strategies for fostering language arts growth through integrated language activities. Field activity required.

EDN 548. Inquiry — The Method of Science (3) The course assumes initial-level competency in the curriculum and methods of science. The course will focus on the conceptualization of and rationale for using the inquiry method of teaching science. Students will participate in activities taken from a variety of science curriculum programs for elementary through senior high school. The course also will provide students with an opportunity to acquire and practice the skills needed to utilize the inquiry method and to guide scientific investigations at K-12 levels. Methodology and types of activities appropriate to the student's level of teaching will be selected.

EDN 549. Middle School Education (3) Study of educational programs for upper elementary education (junior high, middle school, intermediate school). Review of learning,

physical, and social characteristics of "transescents" and historical and current approaches to their education. Comparison and contrast of curriculum, instruction, administrative and organizational features of exemplary and typical intermediate, middle and junior high schools.

EDN 550. Nature and Needs of Exceptional Children (3) This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics, etiology, educational procedures, and psycho-social implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is open only to elementary majors and administration/supervision majors.

EDN 552. Program Development for Mildly Handicapped (3) Prerequisites: EDN 530. Designed to develop an understanding of how to develop and teach relevant curricula to handicapped children through systematic instruction. Focus on characteristics and etiology, assessment, planning, implementation of instructional plans, and selection and utilization of appropriate methods and materials for a wide range of curricular areas.

EDN 553. Classroom Management of Mildly Handicapped Children (3) Designed to develop knowledge and skills, necessary for planning and implementing various classroom management strategies. Focus on observation and measurement of behaviors, design of classroom management strategies, utilization of strategies in the special education and regular classroom environment.

EDN 554. Educating Young Handicapped Children (3) Overview of early childhood education for the handicapped. Trends toward early identification of handicapping conditions and appropriate intervention strategies will be examined. Methods for dealing with developmental delays in regular and special preschool settings will be studied. Working with parents and primary caretakers of young handicapped children will be emphasized.

EDN 555. The Mildly Handicapped Adolescent (3) Designed to provide a basis for understanding the educational needs of mildly handicapped adolescents. The following topics will be covered during the course: the impact of handicapping conditions on the developmental tasks of adolescence; strategies for the remediation of deficits in basic skills; the interrelationship of vocational intervention; the current status of educational programs for the mildly handicapped.

EDN 556-557. Clinical Teaching in Reading Recovery (3-3) Prerequisite: Permission of the instructor. Develops skills in observing, recording, and analyzing children's reading and writing behaviors and in implementing effective methods for teaching literacy to young children at risk of reading failure. Generates understanding of theories of reading and writing processes and of reading acquisition from an emergent literacy perspective.

EDN 559. Adult Literacy (3) Examines the definition of illiteracy and the problem of adult literacy. Reviews approaches to dealing with the problem from philosophical, pedagogical, and sociological bases. Reviews the many movements to overcome the problem in the United States and abroad. Provides students with ideas, methods, and materials for teaching adults to read.

EDN 560. Personnel Administration (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop knowledge, skills, and abilities in specification and analysis of roles and role performance, and in selection, supervision, and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures and a variety of simulated personnel related tasks.

EDN 561. Leadership Applications (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop skills and abilities in analysis, initiation, establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management, communications, information systems, and budgeting. Activities will include lecture, discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562. Automation in Administrative and Instructional Practices (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563. Educational Environments (3) Prerequisites: EDN 502, 510, 511, or approval of department. Designed to develop knowledge, skills, and abilities in the analysis, design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564. Politics and Policy-Making in Education (3) Designed to study the theories, processes, functions, limits, alternatives, goals, and consequences of policy-making as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 565. Curriculum and Instruction in Secondary Subjects (3) Prerequisites: EDN 500, 520, 523 or approval of department. Designed to develop curriculum and instructional skills in the content areas, the course will address generic skills and applications within specific content areas. The student will demonstrate planning and presentation skills in a supervised practicum.

EDN 570. Internship in Educational Administration (3) Prerequisites: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing administrator and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 571. Internship in Educational Supervision (3) Prerequisite: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing supervisor and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 572. Practicum in Reading (3) Prerequisite: EDN 535. Application of understandings of literacy processes and literacy acquisitions to the level of the classroom. Student designs and implements a classroom program based upon a defensible philosophical perspective.

EDN 573. The Disabled Reader (3) Prerequisites: EDN 535, 572. Designed to develop competence and performance in testing teaching, and designing reading/learning programs for the severely disabled reader. Appropriate referral services will be identified. Consultation skills will be developed. Supervised practicum required.

EDN 574. Practicum in Special Education (3) Designed to provide a supervised internship in a cross-categorical special education setting. Provides experiences in diagnosing individual needs, developing educational programs, instructing mildly handicapped students, designing and implementing classroom management techniques, and consulting with teachers, administrators, parents and other professionals.

EDN 575-576. Seminar and Practicum in Early Literacy Intervention (3-3) Prerequisite: Permission of the instructor. Co-requisite: EDN 501, 505, and 556-557. Explores theories of professional development, supervision, and systematic changes and issues affecting early literacy, program development, and teacher learning. Develops skills for implementing, evaluating, and improving literacy intervention programs, including Reading Recovery, and skills in facilitating conceptual change and improving teaching performance. Seminar and practicum experiences extend over two semesters.

EDN 591. Independent Study (3) Prerequisites: 15 semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

EDN 594. Seminar in Education (1-4) Designed to assist the elementary reading or special education graduate student in identifying and synthesizing ideas within and

across courses and formulating reasoned responses to contemporary educational questions.

EDN 595. Special Topics in Education (1-4) Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon approval of the dean of the Graduate School. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599. Thesis in Education (1-6) Prerequisites: EDN 523, at least 18 additional hours toward completion of the master's degree, and permission of instructor. Intensive study of topic selected by student and approval by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

SPECIAL ACADEMIC PROGRAMS

SPECIAL ACADEMIC PROGRAMS

INTERNATIONAL PROGRAMS

The Office of International Programs was established at the University of North Carolina at Wilmington to represent its commitment to international education. The office has responsibility for coordinating area studies programs, faculty and student exchange programs, and other international activities at the university. The goal is to expand and strengthen international ties among individuals, offices, and programs on campus and to encourage the exchange and flow of ideas and information so crucial for the development of global knowledge and awareness. Further information can be obtained by contacting the director of International Programs in the University Union.

ADMISSIONS - INTERNATIONAL STUDENTS

International students must present evidence of their ability to speak, read, and write the English language and to meet fully the financial obligations associated with their study at the university. Students from foreign countries where English is not the primary language must present the results of the TOEFL examination (Test of English as a Foreign Language) as a part of their application for admission. A minimum score of 550 is required for admission to all programs, but this score does not guarantee acceptance. A financial responsibility statement and proof of accident and hospital insurance must also be submitted.

COOPERATIVE PH.D. IN MARINE SCIENCE

The Graduate School at UNCW cooperates with North Carolina State University in a joint program leading to a Ph.D. in marine science. The degree is awarded by the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University and features opportunities for completing some course work and the dissertation research at UNCW. At UNCW, faculty in chemistry, geology, and the biological sciences participate in the program. Marine science students complete a major and minor field of study and are expected to be familiar with areas of marine science other than their own. Students applying for the program must have previously earned a master's degree in an appropriate natural science at UNCW or other accredited institution.

Specific requirements include: after admission to the program, 15 hours of graduate course work must be completed at NCSU before a student takes the preliminary (qualifying) examination. The examination, which includes written and oral components covering the major and minor areas, shall be conducted at NCSU. At least nine hours of course work shall be completed in residence at UNCW. Each student shall complete three core courses from related areas of marine science; the areas are biological oceanography, chemical oceanography, geological oceanography and physical oceanography. Specific requirements vary with each student's program, but doctoral programs normally require 27 to 36 hours of course work, excluding research and dissertation credits, beyond the master's degree. Residence requirements must be fulfilled by completing 18 credit hours of continuous registration at NCSU. A research-based dissertation in the major area of specialization must be completed and approved, including a successful oral defense of the work. Students are allowed a maximum of six calendar years after admission to attain candidacy and a maximum of 10 calendar years to complete all degree requirements.

Students interested in this program should contact the Graduate School at UNCW for application materials.

EXTENSION COURSES

The Division of Academic Affairs administers the university's extension (academic) program. Through the Contract Extension Program, freshman and sophomore level courses are offered at three community colleges: Bladen Community College in Dublin, NC; Sampson Community College in Clinton, NC; and Brunswick Community College in Bolivia, NC. The community colleges recruit and enroll students who are high school graduates or the equivalent. Students enrolled in the program who wish to become degree candidates at the university must apply and meet regular admission requirements for freshman or transfer students.

Additional extension offerings also include undergraduate and graduate courses in the field of education at off-campus sites.

Utilizing primarily UNCW faculty, these courses may be used to meet the staff development and/or graduate education requirements for local teachers.

Extension registrations are received by the Division of Academic Affairs while requests for transcripts should be sent to the Office of the Registrar of the University of North Carolina at Wilmington.

Further information concerning all extension courses may be obtained by contacting the Division of Academic Affairs.

SCIENCE AND MATHEMATICS EDUCATION CENTER

The Science and Mathematics Education Center at UNCW is a member of the University of North Carolina Mathematics and Science Education Network. The center offers a wide range of professional development programs for inservice middle school and high school mathematics and science teachers. Through center sponsored seminars, workshops, and courses, teachers can achieve initial certification in science or mathematics, renew existing certificates, or earn credit toward a graduate degree.

Information concerning upcoming programs may be obtained by contacting the director of the Science and Mathematics Education Center.

GRADUATE FACULTY

GRADUATE FACULTY

Bylaws governing the Graduate Faculty were initiated in 1990 by the Graduate Council and subsequently approved by both the provost and the chancellor. The Bylaws state that the members of the faculty may apply for the Graduate Faculty whenever they meet criteria established by their respective academic units. Hence, the process in on-going, and the list that follows represents only a partial listing of those who ultimately may be appointed to the Graduate Faculty. The list was prepared in keeping with the deadline for the 1993-94 catalogue. A more current listing may be obtained from the Graduate School.

COLLEGE OF ARTS AND SCIENCES

Department of Biological Sciences

Kimon T. Bird, *associate professor of biology,* B.A., University of Texas, Austin; M.S., University of Southern California; Ph.D., University of South Florida, Tampa.

Eric George Bolen, *professor of biology,* B.S., University of Maine; M.S., Ph.D., Utah State University.

Lawrence Bruce Cahoon, *professor of biology,* B.S. Washington and Lee University; Ph.D., Duke University.

Richard M. Dillaman, *professor of biology,* B.A., University of Virginia; Ph.D., University of South Carolina.

Paul Edward Hosler, *professor of biology,* B.S., New Paltz State University (New York); M.A., University of Massachusetts; Ph.D., Duke University.

Donald F. Kapraun, *professor biology,* B.S., Eastern Illinois University; Ph.D., University of Texas, Austin.

David G. Lindquist, *professor of biology,* B.A., University of California-Los Angeles, M.A., California State University- Hayward, Ph.D., University of Arizona.

David E. Padgett, *professor of biology,* A.B., Duke University; M.S., Ph.D., The Ohio State University.

James F. Parnell, *professor of biology,* B.S., M.S., Ph.D., North Carolina State University.

Joseph Richard Pawlik, *assistant professor of biology,* B.S., University of Minnesota; Ph.D., Scripps Institution of Oceanography, University of California, San Diego.

Daniel Belk Plyler, *professor of biology,* A.B., Pfeiffer College; M.A., Ph.D., University of North Carolina at Chapel Hill.

Martin H. Posey, *assistant professor of biology,* B.A., The University of North Carolina at Chapel Hill; Ph.D., University of Oregon.

Robert D. Roer, *professor of biology,* B.S., Brown University; Ph.D., Duke University.

Ronald K. Sizemore, *professor of biology,* B.S., Wake Forest University; M.S., University of South Carolina; Ph.D., University of Maryland.

Department of Chemistry

Sybil K. Burgess, *associate professor of chemistry,* B.S., Meredith College; Ph.D., North Carolina State University.

Charles L. Cahill, *professor of chemistry,* A.B., Oklahoma Baptist University; M.S., Ph.D., University of Oklahoma.

Robert J. Kleber, Jr., *assistant professor of chemistry,* B.S., Cook College, Rutgers University; Ph.D., University of Maryland.

Jack B. Levy, *professor of chemistry,* A.B., Duke University; M.S., Ph.D., North Carolina State University.

Ned Harold Martin, *professor of chemistry,* A.B., Denison University; Ph.D., Duke University.

Pamela J. Seaton, *associate professor of chemistry,* B.A., University of Washington, Seattle; M.A., University of Alaska, Fairbanks; Ph.D., University of Vermont, Burlington.

Joan D. Willey, *Will S. DeLoach, Professor of Chemistry,* B.S., Duke University; Ph.D., Dalhousie University.

Department of Earth Sciences

William Frank Ainsley, Jr., *professor of geography,* A.B., M.A., University of North Carolina at Chapel Hill; M.Div., Southeastern Baptist Theological Seminary; Ph.D., University of North Carolina at Chapel Hill.

David E. Blake, *assistant professor of geology,* B.S., University of North Carolina; M.S., North Carolina State University; Ph.D., Washington State University.

William James Cleary, *professor of geology,* A.B., Southern Illinois University; M.A., Duke University; Ph.D., University of South Carolina.

James Allen Dockal, *associate professor of geology,* B.S., M.S., Iowa State University; Ph.D., University of Iowa.

Jack Charles Hall, *associate professor of geology,* B.S., Grand Valley State College; M.S., University of North Carolina at Chapel Hill; Ph.D., The Ohio State University.

William Burleigh Harris, *professor of geology,* B.S., Campbell College; M.S., West Virginia University; Ph.D., University of North Carolina at Chapel Hill.

John R. Hunstman, *associate professor of geology,* B.S., Mount Union College; M.A., Ph.D., Bryn Mawr College.

Rudolf Hans Kiefer, *assistant professor of geography,* B.A., M.A., University of Heidelberg, Germany; Ph.D., University of Georgia.

Richard A. Laws, *associate professor of geology,* B.A., University of North Carolina at Wilmington; M.A., Ph.D., University of California, Berkeley.

Victor A. Zullo, *professor of geology and adjunct professor of biology,* B.A., M.A., Ph.D., University of California at Berkeley.

Department of English

William D. Atwill, *assistant professor of English,* B.A., University of South Florida; M.A., Florida Atlantic University; Ph.D., Duke University.

Robert H. Byington, *professor of English and folklore,* A.B., Pennsylvania State University; M.A., Lehigh University; Ph.D., University of Pennsylvania.

John P. Clifford, *professor of English,* B.A., St. Francis College; M.A., Ph.D., New York University.

Charles Brooks Dodson, *professor of English,* B.A., DePauw University; M.A., Indiana University; Ph.D., University of Nebraska.

Janet M. Ellerby, *assistant professor of English,* B.S., University of Oregon, Eugene; M.A., California State University, Northridge; Ph.D., University of Washington.

Philip Gerard, *associate professor of English,* B.A., University of Delaware; M.F.A., University of Arizona.

Christopher Gould, *professor of English,* B.A., University of Virginia; M.A., Ph.D., University of South Carolina.

Kathleen Halme, *assistant professor of English,* B.S., University of Wisconsin, M.F.A., University of Michigan.

Richard Hill, *assistant professor of English,* B.A., M.A., University of South Florida; Ph.D., Florida State University.

Thomas G. MacLennan, *associate professor of English,* B.S., M.S., State University College at Buffalo; Ed.D., State University of New York at Buffalo.

Eleanor McKenna, *assistant professor of English,* B.A., University of California; M.A., Ph.D., University of Michigan.

Daniel W. Noland, *associate professor of English,* B.A., The University of North Carolina at Chapel Hill; M.A., Furman University; Ph.D., University of Texas at Austin.

Kathy Rugoff, *associate professor of English,* B.A., Syracuse University; M.A., University of Florida; Ph.D., Florida State University.

Jo Ann M. Seiple, *professor of English,* B.S., M.A., Ed.D., East Texas State University.

Lee Schwenlnger, *associate professor of English,* B.A., University of Colorado; M.A., University of Connecticut at Storrs; Ph.D., University of North Carolina at Chapel Hill.

Barbara F. Waxman, *professor of English,* B.A., Douglass College, Rutgers University; M.A., City College of New York; Ph.D., City University of New York.

Michael D. Wentworth, *associate professor of English,* B.A., University of Kansas; M.A., Eastern Michigan University; Ph.D., Bowling Green State University.

Department of Health, Physical Education and Recreation

John Bennett, *associate professor of physical education,* A.B., The College of William and Mary; M.Ed., Virginia Commonwealth University; Ed.D., Illinois University

Robert B. Buerger, *associate professor of recreation,* B.S., Colorado State University; M.S., University of Kentucky; Ph.D., State University of New York, College of Environmental Science and Forestry, Syracuse.

Clarice S. Combs, *associate professor of physical education,* B.S., University of Wisconsin-Oshkosh; M.A., Ph.D., The Ohio State University.

Department of History

Kathleen Christine Berkeley, *professor of history,* B.A., M.A., Ph.D. University of California, Los Angeles.

Larry E. Cable, *associate professor of history,* B.A., Shimer College; M.A., Western Michigan University; Ph.D., University of Houston.

Andrew F. Clark, *assistant professor of history,* B.A., Columbia University; M.A., The University of Ohio; Ph.D., Michigan State University.

Bruce L. Kinzer, *professor of history,* B.A., Eastern Michigan University; M.A., University of Michigan; Ph.D., University of Toronto.

James Richard Leutze, *professor of history,* B.A., University of Maryland; M.A., University of Miami; Ph.D., Duke University.

Susan P. McCaffray, *associate professor of history,* B.A., College of Wooster; M.A., Ph.D., Duke University.

William McCarthy, *assistant professor of history,* B.A., Miami University; M.A., Ph.D., Boston University.

Melton A. McLaurin, *professor of history,* B.S., M.A., East Carolina University; Ph.D., University of South Carolina.

Michael Seidman, *assistant professor of history,* B.A., Swarthmore College; M.A., University of California, Berkeley; Ph.D., University of Amsterdam.

Kristin Szylvian, *assistant professor of history,* B.A., University of Lowell; M.A., Duquesne University; Ph.D., Carnegie Mellon University.

Robert B. Toplin, *professor of history,* B.S., Penn State University; M.A., Ph.D., Rutgers University.

Larry W. Usilton, III, *associate professor of history,* B.A., M.A., Ph.D., Mississippi State University.

Alan D. Watson, *professor of history,* B.A., Duke University; M.A., East Carolina University; Ph.D., University of South Carolina.

Department of Mathematical Sciences

Russell Herman, *associate professor of mathematical sciences,* B.A., Empire State College; M.A., Temple University; M.S., Ph.D., Clarkson University.

John K. Karlof, *professor of mathematical sciences,* B.S., State University of New York of Oswego; M.A., Ph.D., University of Colorado; M.S., State University of New York at Stonybrook.

Ibrahim S. Sadek, *professor of mathematical sciences,* B.Sc., M.Sc., Middle East Technical University; Ph.D., University of California at Santa Barbara.

Douglas D. Smith, *professor of mathematical sciences,* B.S., M.A., University of Illinois; Ph.D., The Pennsylvania State University.

Joseph Gea Gue Yan, *associate professor of mathematical sciences,* B.S., National Cheng-Kung University; M.A., Ph.D., State University of New York-Buffalo.

Department of Philosophy and Religion

James Kevin McGowan, *professor of philosophy and religion,* A.B., Mary Immaculate College; Ph.L., The Catholic University of America; Ph.D., University of Louvain.

Department of Psychology

Carolyn H. Simmons, *professor of psychology,* B.A., Wellesley College; M.A., Ph.D., University of Kentucky.

Department of Sociology and Anthropology

Randy L. LaGrange, *professor of criminal justice,* B.S., M.A., University of Toledo; Ph.D., Rutgers University.

Robert Kent Miller, Jr., *professor of sociology,* A.B., Franklin and Marshall College; M.A., Ph.D., Temple University.

Stephen J. McNamee, *professor sociology,* A.B., Rutgers University, Camden, M.A., Ph.D., University of Illinois, Urbana-Champaign.

Cecil L. Willis, *professor of criminal justice,* B.S., East Tennessee University; M.S., East Carolina University; Ph.D., Virginia Polytechnic Institute and State University.

CAMERON SCHOOL OF BUSINESS ADMINISTRATION

Department of Accountancy and Business Law

Robert W. Appleton, *associate professor of accountancy,* B.S., Belmont College; M.B.A., Memphis State University; CPA.

Jack D. Baker, *associate professor of accountancy,* B.A., University of Colorado; M.S., Ph.D., University of Missouri at Columbia; CPA.

Stephen M. Courtenay, *assistant professor of accountancy,* B.A., M.B.A., Ph.D., University of Arkansas, CPA.

Fara M. Elikai, *associate professor of accountancy,* B.S., The Institute of Advanced Accounting-Tehran; M.S., University of Kansas; Ph.D., University of Oklahoma.

Randall Keith Hanson, *associate professor of business law,* B.S.B.A., J.D., University of North Dakota; L.L.M., Southern Methodist University.

Norman R. Kaylor, *professor of accountancy,* B.S., Middle Tennessee State University; M.B.A., Georgia State University; Ph.D., University of Mississippi.

John A. Marts, *professor of accountancy,* B.S., University of North Carolina at Charlotte; M.A.T., Ph.D., University of South Carolina; CPA.

Howard O. Rockness, *professor of accountancy,* B.S., M.B.A., Ph.D., University of Washington.

Department of Economics and Finance

Denis G. Carter, *associate professor of economics*, A.B., Boston College; Ph.D., University of Florida.

Ronald E. Copley, *associate professor of finance,* B.A., M.B.A., Old Dominion University; Ph.D., University of South Carolina.

Claude Herman Farrell, III, *professor of economics,* B.S., M.E., Ph.D., North Carolina State University.

William Woodward Hall, Jr., *professor of economics*, B.A., Presbyterian College; M.S., Ph.D., Clemson University.

James D. Harriss, Jr., *assistant professor of finance,* B.B.A., M.B.A., Sam Houston State University; D.B.A., Mississippi State University.

Roger Post Hill, *professor of economics and finance*, B.S., North Carolina State University; M.S., Oklahoma State University; Ph.D., Michigan State University; post-doctoral study, University of North Carolina at Chapel Hill.

Kristin K. Howell, *assistant professor of economics,* B.A., University of North Carolina at Chapel Hill; M.B.A., University of North Carolina at Greensboro; Ph.D., University of Kentucky.

Luther Drew Lawson, *associate professor of economics,* B.S., M.S., Indiana State University; Ph.D., University of Tennessee.

N. Stephen Robinson, *assistant professor of economics;* B.S., M.S., Middle Tennessee State University; Ph.D., University of Oklahoma.

Kevin L. Ross, *assistant professor of economics,* B.S., M.S., Ph.D., Florida State University.

Kevin Joel Sigler, *assistant professor of finance,* B.S., Cornell University; M.B.A., Creighton University; Ph.D., University of Nebraska at Lincoln.

Department of Management and Marketing

Richard A. Engdahl, *associate professor of management,* B.A., M.B.A., University of Michigan; Ph.D., University of Washington.

Stephen Coale Harper, *professor of management,* B.B.A., University of New Mexico; M.B.A., University of Arizona; Ph.D., Arizona State University.

Kenneth Douglas Hoffman, *assistant professor of marketing,* B.S., The Ohio State University; M.B.A., D.B.A., University of Kentucky.

Earl D. Honeycutt, *associate professor of marketing,* B.S., M.B.A., Appalachian State University; M.S., Chapman College; Ph.D., University of Georgia.

L. Vince Howe, Jr., *associate professor of marketing,* B.S., M.B.A., Ph.D., University of Georgia.

James Brunner Hunt, *assistant professor of marketing,* B.S., High Point College, M.B.A., Vanderbilt University; Ph.D., Florida State University.

Tammy Garrison Hunt, *assistant professor of management,* B.S., High Point College; M.B.A., Middle Tennessee State University; Ph.D., Florida State University.

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Rebecca I. Porterfield, *assistant professor of management,* B.S., M.B.A., Mississippi State University; Ph.D., Clemson University.

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Department of Production and Decision Sciences

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George P. Schell, *associate professor of management science,* B.S., M.A., University of Florida; Ph.D., Purdue University.

SCHOOL OF EDUCATION

Department of Curricular Studies

David Michael Andrews, *associate professor of science education,* B.A., Southern Connecticut State University; M.Ed., Ed.D., University of Maine at Orono.

Grace M. Burton, *professor of education,* A.B., Annhurst College; M.A., Ph.D., University of Connecticut.

Hathia A. Hayes, *associate professor of education,* B.S., M.S., Louisiana Polytechnic Institute; Ed.D., University of Georgia.

Roy Eugene Harkin, *professor of education,* A.B., M.A., Ball State University; Ph.D., Claremont Graduate School.

Ann Lockledge, *associate professor of education,* B.A., Pomona College; B.F.T., American Graduate School of International Management; M.S.Ed., Hofstra University; Ph.D., Texas A & M University.

Marcee M. Raab, *professor of education,* B.S., Syracuse University; M.Ed., American University; Ph.D., University of South Florida.

Carol Chase Thomas, *professor of education,* B.A., University of Kentucky; M.Ed., The Citadel; Ed.D., University of Kentucky.

Eleanor Boyd Wright, *associate professor of education,* A.B., Greensboro College; M.A., State University of New York, College of Geneseo; Ph.D., University of North Carolina at Chapel Hill.

Department of Educational Design and Management

Calvin L. Doss, *professor of education,* B.S., Berry College; M.Ed., University of Georgia; Ph.D., University of North Carolina at Chapel Hill.

Rodney S. Earle, *associate professor of education,* Dip.T., Kelvin Grove Teachers College; B.A., M.Ed., Brigham Young University; Ph.D., Indiana University.

William Jay Johnston, *associate professor of education,* B.S., Midwestern University; M.A., Memphis State University; Ph.D., University of North Carolina at Chapel Hill.

Robert E. Tyndall, *professor of education,* A.B., M.A.T., Ed.D., The University of North Carolina at Chapel Hill.

SCHOOL OF NURSING

Marlene M. Rosenkoetter, *professor of nursing,* Diploma in Nursing, Barnes Hospital School of Nursing; B.A., M.Ed., University of Missouri; M.S.N., East Carolina University; Ph.D., St. Louis University.

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The University of North Carolina
at Wilmington
601 South College Road
Wilmington, NC 28403-3297
(919) 395-3000

Fourth Class
Book Rate

The University of North Carolina at Wilmington

1994-95

Graduate Catalogue

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

GRADUATE CATALOGUE

1994-95

Bulletin 5

The University of North Carolina at Wilmington is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Moreover, the University of North Carolina at Wilmington is open to people of all races and actively seeks to promote racial integration by recruiting and enrolling a larger number of black students.

Further, the university affirms that admissions and employment decisions will be made without regard to an individuals political affiliation, sexual orientation, or relationship to other university constituents. The university seeks to promote campus diversity by employing a larger number of minorities and females where these groups are under-utilized within the university.

Questions regarding program access should be referred to the Compliance Officer, UNCW Chancellor's Office, 601 S. College Road, Wilmington, NC 28403-3297, 910-395-3835; 350-4050 (Fax).

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All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of the University of North Carolina at Wilmington.

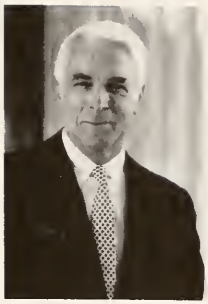
2,500 copies of this public document were printed at a cost of $4,084 or $1.63 per copy.

Eunice T. MacRae
Chairman, Board of Trustees

The Board of Trustees at the University of North Carolina at Wilmington extends a warm welcome to you. We know you have given much thought to what you really wish to experience and gain from college and we are pleased that you have decided to pursue your graduate education at UNCW. A first-rate education is not something that happens to you; rather, you make it happen yourself. Your choice to come to UNCW is the first step in making things happen. We are proud that you have chosen UNCW. We have an outstanding faculty and we know we can provide you with a quality education. You will find your professors easily available to you and dedicated to helping you achieve your goals. You will be asked to make a significant commitment of your own resources, time, and energy. In return, the university provides you with an abundance of opportunities to learn and grow.

One way to think of UNCW is to see it as a community — faculty, staff, classmates — and as a set of resources — courses, libraries, labs, residence halls, athletic and student organizations — that you will use to shape your education. You will find a special ambience here. The campus, with its natural beauty, modified georgian buildings and intellectually stimulating environment, makes an ideal setting in which to live and study. Your experience here can be a great adventure full of exciting discoveries. You will find satisfaction in your accomplishments and enjoyment in new friendships.

The City of Wilmington recognizes the university as one of its greatest assets and provides many cultural and educational opportunities. There are also numerous historical sites to visit and plenty of recreational activities.



Dr. James R. Leutze
Chancellor

As you begin your graduate career at the University of North Carolina at Wilmington, you are entering a challenging time of rigorous academic pursuits. To achieve this level of education, you have already demonstrated scholastic ability and intellectual promise. We welcome your critical thinking and invite you to become a valued member of an intellectual community.

You have chosen an institution where faculty care about students and where students care about building a tradition of academic achievement and research accomplishments. You will learn to love Wilmington with its charm, tradition and access to varied recreational options.

UNCW faculty and staff are vitally interested in your success and are here to help you. I keep regular office hours for students and expect you to come see me if you think I can help, or just to chat.

With all best wishes,

James R. Leutze
Chancellor

UNC Wilmington is the sum of these many things. We challenge you to take advantage of what is offered, thus achieving a rewarding and enjoyable experience from your college years.

Very truly yours,

Eunice T. MacRae
Chair of the Board of Trustees

1994

JANUARY

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CALENDAR OF EVENTS
1994-1995

Fall, 1994

August 15, Monday	Academic Year Begins
August 20, Saturday	On-campus housing opens for new students only 10 a.m.
August 21, Sunday	On-campus housing opens for returning students 10 a.m.
August 21-23, Sunday-Tuesday	Orientation and Advising
August 24, Wednesday	Registration*/Convocation
August 25, Thursday	Classes Begin
August 31, Wednesday	Last day to drop (without a grade) or add a class
September 5, Monday	Labor Day Holiday
September 15, Thursday	Faculty Meeting
October 12, Wednesday	Fall vacation begins 10:30 p.m.
October 17, Monday	Fall vacation ends 8 a.m.
November 11, Friday	Last day to withdraw with W—graduate students
November 22, Tuesday	Thanksgiving vacation begins at 10:30 p.m.
November 28, Monday	Thanksgiving vacation ends at 8 a.m.
December 9, Friday	Last day of classes
December 10, Saturday	Commencement/Reading Day
December 12-17, Monday-Saturday	Final Examinations
December 19-20, Monday-Tuesday	Final Examinations
December 20, Tuesday	Graduation application deadline, spring 1995—graduate students
December 20, Tuesday	Fall semester ends
December 21, Wednesday	On-campus housing closes 10 a.m.

*Contact the Graduate School for additional times for graduate registration.

Spring, 1995

January 4, Wednesday	On-campus housing opens for new students and transfer students 10 a.m.
January 5, Thursday	Spring semester begins/orientation and testing
January 6, Friday	Advising and Registration*/on-campus housing opens for returning students 10 a.m.
January 9, Monday	Classes begin
January 13, Friday	Last day to drop (without a grade) or add a class
January 16, Monday	Martin Luther King holiday
March 3, Friday	Spring vacation begins 10:30 p.m.
March 4, Saturday	On-campus housing closes 10 a.m.
March 12, Sunday	On-campus housing opens 10 a.m.
March 13, Monday	Spring vacation ends 8 a.m.
March 28, Tuesday	Last day to withdraw with W—graduate students
April 13, Thursday	Easter vacation begins 10:30 p.m.
April 17, Monday	Easter vacation ends 8 a.m.
April 20, Thursday	Faculty Meeting
April 26, Wednesday	Last day of classes
April 27, Thursday	Reading Day
April 28-29, Friday-Saturday	Final Examination
May 1-6, Monday-Saturday	Final Examination

May 6, Saturday	Spring semester ends
May 7, Sunday	On-campus housing closes 10 a.m.
May 12, Friday	Graduation application deadline, summer 1995 – graduate students
May 13, Saturday	Commencement/Academic Year Ends

*Contact the Graduate School for additional times for graduate registration.

Summer I, 1995

May 21, Sunday	On-campus housing opens 10 a.m.
May 22, Monday	Registration*
May 23, Tuesday	Classes begin
May 24, Wednesday	Last day for registration
May 25, Thursday	Last day to drop (without a grade) or add a class
June 12, Monday	Last day to withdraw with W—graduate students
June 21, Wednesday	Last day of classes
June 22, Thursday	Final examination/terms ends

Summer II, 1995

June 25, Sunday	On-campus housing opens 10 a.m.
June 26, Monday	Registration*
June 27, Tuesday	Classes begin
June 28, Wednesday	Last day for registration
June 29, Thursday	Last day to drop (without a grade) or add a class
July 4, Tuesday	Independence Day holiday
July 18, Tuesday	Last day to withdraw with W—graduate students
July 27, Thursday	Last day of classes
July 28, Friday	Graduation application deadline, fall 1995—graduate students
July 28, Friday	Final examinations/term ends
July 29, Saturday	On-campus housing closes 10 a.m.

*Contact the Graduate School for additional times for graduate registration.

CALENDAR OF EVENTS
1995-96

Fall, 1995

August 14, Monday	Academic year begins
August 19, Saturday	On-campus housing opens for new students only 10 a.m.
August 20, Sunday	On-campus housing opens for returning students 10 a.m.
August 20-22, Sunday-Tuesday	Orientation and advising
August 23, Wednesday	Registration*/Convocation
August 24, Thursday	Classes begin
August 30, Wednesday	Last day to drop (without a grade) or add a class
September 4, Monday	Labor Day Holiday
September 14, Thursday	Faculty Meeting
October 11, Wednesday	Fall vacation begins 10:30 p.m.
October 16, Monday	Fall vacation ends 8 a.m.
November 10, Friday	Last day to withdraw with W - graduate students
November 21, Tuesday	Thanksgiving vacation begins 10:30 p.m./on-campus housing closes
November 27, Monday	Thanksgiving vacation ends 8 a.m.
December 8, Friday	Last day of classes
December 9, Saturday	Commencement/Reading Day
December 11-16, Monday-Saturday	Final Examinations
December 18-19, Monday-Tuesday	Final Examinations
December 19, Tuesday	Graduate application deadline, spring 1996 - graduate students
December 19, Tuesday	Fall semester ends
December 20, Wednesday	On-campus housing closes 10 a.m.

Spring, 1996

January 4, Thursday	On-campus housing opens for new and transfer students 10 a.m. Spring semester begins/orientation and testing
January 8, Monday	Classes begin
January 12, Friday	Last day to drop (without a grade) or add a class
January 15, Monday	Martin Luther King holiday
March 1, Friday	Spring vacation begins 10:30 p.m./on-campus housing closes 10 p.m.
March 10, Sunday	On-campus housing opens 12 noon
March 11, Monday	Spring vacation ends 8 a.m
March 26, Tuesday	Last day to withdraw with W - graduate students
April 4, Thursday	Easter vacation begins 10:30 p.m.
April 8, Monday	Easter vacation ends 8 a.m.
April 18, Thursday	Faculty Meeting
April 24, Wednesday	Last day of classes
April 25, Thursday	Reading Day
April 26-27, Friday-Saturday	Final Examinations
April 29-May 4, Monday-Saturday	Final Examinations

May 3, Friday	Graduation application deadline, summer 1996 - graduate students
May 4, Saturday	Spring semester ends
May 5, Sunday	On-campus housing closes 10 a.m.
May 11, Saturday	Commencement/Academic year ends

Summer I, 1996

May 19, Sunday	On-campus housing opens 10 a.m.
May 20, Monday	Registration
May 21, Tuesday	Classes begin
May 22, Wednesday	Last day for registration
May 23, Thursday	Last day to drop (without a grade) or add a class
June 10, Monday	Last day to withdraw with W - graduate students
June 19, Wednesday	Last day of classes
June 20, Thursday	Final examinations/term ends
June 21, Friday	On-campus housing closes 10 a.m.

Summer II, 1996

June 23, Sunday	On-campus housing opens 10 a.m.
June 24, Monday	Registration
June 25, Tuesday	Classes begin
June 26, Wednesday	Last day for registration
June 27, Thursday	Last day to drop (without a grade) or add a class
July 4, Thursday	Independence Day holiday
July 16, Tuesday	Last day to withdraw with W - graduate students
July 25, Thursday	Last day of classes
July 26, Friday	Graduation application deadline, fall 96 - graduate students
July 26, Friday	Final examinations/term ends
July 27, Saturday	On-campus housing closes 10 a.m.

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1993-94

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Dr. James F. Parnell, Biology, term ends August, 1996
Dr. Sybil K. Burgess, Chemistry, term ends August, 1994
Dr. Lee F. Schweninger, English, term ends August, 1995

Cameron School of Business Administration

Dr. Howard O. Rockness, Dean, Cameron School of Business Administration
Dr. John M. Garris, Production and Decision Sciences, term ends August, 1994
Dr. William W. Hall, Jr., Economics & Finance, term ends August, 1995

School of Education

Dr. Robert E. Tyndall, Dean, School of Education
Dr. Grace M. Burton, Curricular Studies, term ends August, 1994
Dr. Bill J. Johnston, Educational Design & Management, term ends August, 1995

School of Nursing

Dr. Marlene M. Rosenkoetter, Dean, School of Nursing
Dr. Helen S. Faller, term ends August, 1995

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Dr. James R. Leutze, Chancellor
Dr. Marvin K. Moss, Provost
Dr. John J. Manock, Director of Research Administration
Mr. Eugene W. Huguelet, Director of Library Services

THE UNIVERSITY OF NORTH CAROLINA
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HISTORY OF THE UNIVERSITY

HISTORY OF THE UNIVERSITY OF NORTH CAROLINA

In North Carolina, all the public educational institutions that grant baccalaureate degrees are part of the University of North Carolina. The University of North Carolina at Wilmington is one of 16 constituent institutions of the multi-campus state university.

The University of North Carolina, chartered by the N.C. General Assembly in 1789, was the first public university in the United States to open its doors and the only one to graduate students in the eighteenth century. The first class was admitted in Chapel Hill in 1795. For the next 136 years, the only campus of the University of North Carolina was at Chapel Hill.

In 1877, the N.C. General Assembly began sponsoring additional institutions of higher education, diverse in origin and purpose. Five were historically black institutions, and another was founded to educate American Indians. Several were created to prepare teachers for the public schools. Others had a technological emphasis. One is a training school for performing artists.

In 1931, the N.C. General Assembly redefined the University of North Carolina to include three state-supported institutions: the campus at Chapel Hill (now the University of North Carolina at Chapel Hill), North Carolina State College (now North Carolina State University at Raleigh), and Woman's College (now the University of North Carolina at Greensboro). The new multi-campus university operated with one board of trustees and one president. By 1969, three additional campuses had joined the university through legislative action: the University of North Carolina at Charlotte, the University of North Carolina at Asheville, and the University of North Carolina at Wilmington. In 1971, the General Assembly passed legislation bringing into the University of North Carolina the state's ten remaining public senior institutions, each of which had until then been legally separate: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, the North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This action created the current 16-campus university. (In 1985, the North Carolina School of Science and Mathematics, a residential high school for gifted students, was declared an affiliated school of the university.)

The UNC Board of Governors is the policy-making body legally charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." It elects the president who administers the university. The 32 voting members of the Board of Governors are elected by the General Assembly for four-year terms. Former board chairmen and board members who are former governors of North Carolina may continue to serve for limited periods as non-voting members emeriti. The president of the UNC Association of Student Governments, or that student's designee, is also a non-voting member.

Each of the 16 constituent institutions is headed by a chancellor, who is chosen by the Board of Governors on the president's nomination and is responsible to the president. Each institution has a board of trustees, consisting of eight members elected by the Board of Governors, four appointed by the governor, and the president of the student body, who serves ex- officio. (The NC School of the Arts has two additional ex-officio members.) Each board of trustees holds extensive powers over academic and other operations of its institution on delegation from the Board of Governors.

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

STATEMENT OF INSTITUTIONAL MISSION

The University of North Carolina at Wilmington is a community of scholars dedicated to excellence in teaching, learning, research, artistic achievement, and service to local and global communities. It is an evolving comprehensive university of moderate size that values close relationships among students, faculty, and staff in a diverse, supportive, and challenging intellectual environment. The institution offers a wide range of undergraduate and master's degree programs, as well as a cooperative doctoral program in marine science. The university's continuing focus is on teaching, expanding basic and applied research activities, and meeting the public service needs of southeastern North Carolina. Founded as Wilmington College in 1947, the university owes much of its development and dynamic character to its heritage and location. The student-centered philosophy of the university comes in part from its origin as a college with small classes and its pledge to continually enhance interactions between students and faculty. With growth, the focus has expanded to include graduate students, bringing increased opportunities for scholarly activities.

As the only public university in southeastern North Carolina, this institution bears a special responsibility for education and service. The university is committed to providing lifelong learning opportunities, assisting with the improvement of public school education, and enhancing the personal, cultural, and economic health of the region. Located in a historic port city, the university provides related experiences in cultural, commercial, and archeological studies. UNCW's proximity to the Atlantic Ocean, its existing marine science programs and its faculty expertise, enhance the state's leadership in marine studies and provide exceptional opportunities to teach and practice environmental awareness and responsibility. The Center for Marine Science Research promotes basic research in oceanography, coastal and wetland science, marine biotechnology and aquaculture, and marine biomedical and environmental physiology. A cooperative doctoral degree in marine science is offered in conjunction with master of science degree programs in marine biology. In addition to its broad commitment to preserving the resources of the coastal environment, the university is also dedicated to the preservation of conservation areas on campus that are representative of ecosystems in the region.Quality undergraduate education is the cornerstone of the university's instructional activities. Efforts to enroll, retain and graduate students from diverse socioeconomic, geographic, and demographic backgrounds are being expanded. The university seeks to stimulate in its students intellectual curiosity, ethics, imagination, rational thinking, thoughtful expression, and a love of learning. Knowledge of the humanities, social and natural sciences, and fine arts, along with effective communication and decision-making skills are central to the curriculum. Students are encouraged to develop an understanding of their own and other cultures in order to appreciate the rich variety of thought and lifestyles that form the world in which they live. The university offers programs to help students clarify values, develop physical well-being, work independently and interdependently, and participate in university governance. The university is committed to providing each student with opportunities, resources, and guidance to achieve personal, academic and career goals.

Excellence in teaching and creative scholarly activity are fundamental for any university. To meet the challenges that a diverse campus community brings, faculty are given increasing opportunities and resources to enhance instructional skills. Superior teachers are recognized for their efforts and serve as role models for others in the profession. The pursuit of knowledge

and understanding complements effective teaching, sustains intellectual vitality, and is an important contribution to the larger community. Research and artistic endeavors are essential for faculty and students. The university encourages and supports scholarly work and seeks to attract energetic faculty with diverse interests and expertise. The university provides a secure intellectual, social, and physical environment conducive to achieving its mission. Freedom of thought, expression, and association are fostered and protected.

The continuing development of students, faculty, and staff, as well as the maintenance and development of academic and social programs of excellence, are ensured with funds from both public and private sources. Ongoing planning and assessment of services, programs, research, and instruction assure the productive use of resources and assets.

In its public service role, UNCW seeks to be a leader in initiating and coordinating programs that address the special needs of its service region. UNCW has served as a resource and catalyst for regional planning and development activities for more than two decades. The university continues to demonstrate its commitment to improving the quality of life in the region and state through strong partnerships with educational, governmental, cultural, health, and business communities. The Cameron School of Business Administration has established both the Center for Business and Economic Services, which provides information and consultation services to local businesses, and the Small Business Institute, which provides opportunities for field studies in local firms by teams of senior level undergraduates. The campus also houses the Small Business Technology and Development Center which is part of a state-wide effort to assist in the development of small businesses. The School of Education, through its Consortium for the Advancement of Public Education (CAPE), has created excellent professional ties with all the public school agencies in the southeastern region of the state. These ties are enhanced by the Science and Mathematics Education Center, a joint venture of the College of Arts and Sciences with the School of Education. Yet the expanding and changing population of southeastern North Carolina, coupled with accelerated economic growth, places new and increased demands on the university and the region. Regional issues being addressed include responsible economic development, the increase in the retired and elderly population, and the need to reform public elementary and secondary education.

The university remains committed to planned growth, quality programs, and a strong sense of community. The evolution of the university will involve strengthening and expanding

- undergraduate education,
- marine science and marine-related activities,
- research, graduate, and professional programs,
- interdisciplinary programs,
- public service,
- international exchange programs for students and faculty,
- involvement in multicultural, social, environmental, and global issues of current and emerging importance,
- instructional and research resources, and
- campus facilities to meet educational, social, and recreational needs.

Through the activities of its students, faculty, and staff, the University of North Carolina at Wilmington seeks to educate and interact with the diverse community it reflects and serves. The university shall strive, through regular communication with regional agencies and through a continual assessment of programs, to meet the needs of southeastern North Carolina. Fulfilling this mission strengthens the position of the university within the world academic community.

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of the University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the academic year 1946-47. In 1947, a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Education. In 1948, Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952, the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958, New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree.

By vote of the Board of Trustees of the University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, the University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of the University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus the University of North Carolina now comprises 16 institutions.

On August 22, 1977, the Board of Governors of the University of North Carolina authorized the University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

In the spring of 1985, the Board of Governors of the University of North Carolina elevated the University of North Carolina at Wilmington to a Comprehensive Level I University.

The programs offered by the university include four-year programs leading to the Bachelor of Arts and Bachelor of Science degrees within the College of Arts and Sciences, the Cameron School of Business Administration, the School of Education, and the School of Nursing; graduate programs leading to the Master of Education, the Master of Science, the Master of Arts, the Master of Arts in Teaching, and the Master of Business Administration degrees; a variety of pre-professional programs; and special programs in a variety of areas, including marine science research and continuing education.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the bachelor's and master's level and the North Carolina Association of Colleges and Universities. The School of Education is accredited by the National Council for Accreditation of Teacher Education. The School of Nursing is accredited by the National League for Nursing. The university also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support of Education, and is on the list of schools approved by the American Chemical Society. The Cameron School of Business is accredited by the American Assembly of Collegiate Schools of Business. The Parks and Recreation Management Curriculum is accredited by the National Recreation and Parks Association/American Association for Leisure and Recreation.

THE FACULTY

The university seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 412 instructional and research faculty, more than 67 percent hold doctoral degrees.

STATEMENT ON DIVERSITY IN THE UNIVERSITY COMMUNITY

In an effort to address the needs of the total university community, the chancellor has endorsed the following statement of principle proposed by the Human Relations Advisory Committee. As an institution of higher learning, the University of North Carolina at Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity.

Accordingly, the university supports policies, curricula, and co-curricular activities that encourage understanding of an appreciation for all members of its community and will not tolerate any harassment of or disrespect for persons because of age, sex, color, race,

religion, creed, national origin, sexual orientation, political belief or affiliation, handicap, veteran status, marital status, or membership in any organization.

For more information concerning the ways that our multicultural learning community may be nurtured and protected, contact the Human Relations Committee through the offices of the Chancellor or the Dean of Students.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of the University of North Carolina at Wilmington, in recognition of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

Recipients

1978 B. Frank Hall
1979 Frank Allen
1980 Steve Harper
1981 Gerald Shinn
1982 William F. Adcock (posthumously)
1983 Betty Jo Welch
1984 Anne B. McCrary
1985 Charles Richard Ward
1986 John H. Haley
1987 Saul Bachner
1988 C. Sue Lamb
1989 W. Lee Johnston
1990 C. Sue Combs
1991 Grace M. Burton
1992 Timothy A. Ballard
1993 Faramarz "Fara" Elikai

THE UNCW AWARD FOR FACULTY SCHOLARSHIP

The UNCW Award for Faculty Scholarship is designed to underscore this institution's continuing commitment to scholarship and creative work. Recipients of the award shall stand out among the faculty as persons who have made, and continue to make, a significant contribution to the university and the academic community through their commitment to scholarship, research, and creativity.

Recipients

1990 Donald F. Kapraun
1991 J. Mark Galizio
1992 John Clifford
1993 Robert B. Toplin

THE FOUNDATION CHAIR

The Foundation of the University of North Carolina at Wilmington is a charitable, nonprofit corporation established for the sole purpose of supporting the university. Through private donations it supports a faculty chair, designated to assist the university in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the university to bring to this campus renowned scholars and performing artists. In filling the chair a special effort is made to select individuals whose contributions will benefit not only the university, but also the community at large.

THE CAMPUS

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 661-acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River and is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 118,000. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness to the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities.

The spacious well-landscaped campus was first occupied by the university in 1961. The number of buildings has increased from three in 1961 to 70 today. There are several athletic fields and ample space for parking.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the dining hall and residence halls, are completely air-conditioned.

Edwin A. Alderman Hall, which houses administrative offices, is named in honor of a native Wilmingtonian who served as president of the University of North Carolina, the University of Virginia and Tulane University.

Hoggard Hall, an academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the School of Nursing, laboratories, the Computing Center, Institutional Research, Research Administration, and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the departments of fine arts and communication studies. It contains classrooms, faculty offices, art and music studios, the musical library, and electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

Will S. DeLoach Hall houses the departments of chemistry and physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and laboratories for the physical sciences.

Friday Hall, named in honor of UNC President Emeritus William C. Friday and his wife, Ida, was completed in 1974. It houses the departments of Biological Sciences and Earth Sciences and contains classrooms and laboratories.

Arnold Kimsey King Hall houses the School of Education and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory. Isaac Bear Hall, completed in 1972, contains the College of Arts and Sciences and the Department of Mathematical Sciences.

Cameron Hall, occupied in 1988, houses the Cameron School of Business Administration.

Morton Hall, named for Margaret Shannon Morton, was completed in October 1978 and houses the departments of English, history, and modern languages. The building contains classrooms, seminar rooms, and the Bryan Auditorium which seats 200.

The Social and Behavioral Sciences Building was completed in 1980. It houses the departments of Psychology, Philosophy and Religion, Political Science, and Sociology/Anthropology, as well as some offices of the campus computing center.

The Sarah Graham Kenan Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium also is equipped for use as a theatre and contains seminar rooms for the Department of Fine Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of all students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000-seat coliseum as well as an olympic-size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

The University Union is the "living room" of the university community. It houses a wide variety of services, student and administrative offices, while providing space for campus activities and meetings.

The University Center, opened in 1991, provides supplementary space to the University Union operation. In the building are housed the post office, the game room, a food facility and coffee house, the Office of Human Resources, and a large multi-purpose room which can be divided into as many as three smaller spaces. Areas of the multi-purpose room will be available to the university community and the community at large for meetings and conference proceedings, etc.

Hinton James Hall, named for a New Hanover County resident who was the first student to enroll at the University of North Carolina, houses the Graduate School, Office of Enrollment Management, Financial Aid Office, Registrar Services, Undergraduate Admissions, and Cashier.

The University Student Support Center opened in the summer of 1985. Centrally located adjacent to the University Union, it houses the University Bookstore.

Wagoner Dining Hall opened in 1989, providing space for food service for students and faculty. This facility, along with two other food service facilities, contains modern food service equipment which allows for many different food and catering services. It also houses a special purpose meeting and dining facility known as Madeline Suite.

Westside Hall houses Student Health Services and the Student Development Center as well as the Division of Public Service.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student residence hall, named in honor of Addison Hewlett, Jr., opened in the fall of 1978. Another residence hall for 220 students, Frederick B. Graham Hall, was occupied in the fall of 1979. Schwartz Hall opened in the fall of 1985 for an additional 160 students. Suite housing for 400 students opened in the fall of 1989.

WILLIAM MADISON RANDALL LIBRARY

The William Madison Randall Library constitutes a vital instructional and research resource of the University of North Carolina at Wilmington. Named for the president emeritus of Wilmington College, the library, recently enlarged and completely renovated, provides seating for over 950 users and will accommodate a collection of 450,000 hardbound volumes in addition to various other collections of informational resources.

The library now contains more than 385,000 hardbound volumes and subscribes to some 5,000 serial titles. Extensive journal backfiles are maintained in bound volumes and in microformat. A large audiovisual collection containing resources in several formats is conveniently located on the first floor, and a 73-seat auditorium is equipped for various types of

audiovisual use. Rare and unique items are housed in the Helen Hagan Rare Book Room. An online catalog and circulation system provides easy, efficient access to most of the library's collections.

The library is a partial depository for United States government publications, and the collection now consists of more than 480,000 items in hardcopy and microtext. The library is a full depository for North Carolina documents. These materials are readily available to all of the library's users. The library also houses the Curriculum Materials Center, a specialized facility designed to support the teacher education program of the School of Education.

Maintaining a schedule of more than 98 hours per week during the regular academic sessions, the library has established as its major goal the provision of an excellent program of services designed to facilitate and encourage maximum use of informational resources.

BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Bluethenthal Memorial Wildflower Preserve is a 10 acre memorial botanical garden located on the UNCW campus. Established in 1972, its purpose is to provide where the university community and the public can learn about and enjoy our native plants and their habitats. Many of the plants are labeled and maps and trail guides are available at the entrance.

EV-HENWOOD

Ev-Henwood is UNCW's coastal forest research and teaching station located in Brunswick County. It is only a short 30 minute drive from the university and it is used for both faculty and student research as well as for class field trips. Consisting of approximately 108 acres, its habitats include oak/hickory woods, pines, forests, and low woods along bordering Town Creek and its branches. Additional habitats such as beech woods, ponds, and fields are available on the adjacent tract.

COMPUTING SERVICES

Computing support for students is diversified and wide-spread across the university campus. Three general access microcomputer labs are operated on campus with modern PC and Macintosh equipment available in those facilities. In addition, there are two terminal clusters with connections to the central VAXcluster, and to UNIX-based systems in Mathematical Sciences. There are also a number of departmentally-operated computer labs ranging from microcomputers to workstations to parallel computing systems. These departmental labs are located in Mathematical Sciences, Cameron School of Business, Chemistry and English; with smaller facilities in other departments. LAN-based computing is also growing at a rapid rate and is present in many academic areas.

The central VAXcluster computer system operates under OpenVMS and offers access to statistical packages, word processing, spreadsheet, language compilers and electronic mail, as well as Internet access to the world. A Cray supercomputer, located at the North Carolina Supercomputer Center in Research Triangle Park, is accessible through the campus network for appropriate and approved instructional and research activities.

The university has installed fiber optic cable to all buildings on campus. This will enable connection to a high-speed fiber optic campus data network which provides access to the central VAXcluster, departmental systems, and the Randall Library on-line catalog.

Each year, greater emphasis is being placed by the faculty upon student utilization of computing facilities. Every department on campus uses computing in some aspect of its daily activities. Students are expected to assimilate computing skills as an integral part of

their campus life and are offered free training seminars during the fall and spring semesters. These seminars cover most of the major software applications utilized across campus, as well as general computing skills required to utilize the larger systems.

Students may define their own VAXcluster accounts. These accounts will remain active as long as the student is enrolled at the university. All students are expected to abide by the rules and policies governing appropriate use of computing resources and facilities as stated in the UNCW Computing Resource Use Advisory. For more information about computing at UNCW, contact Academic Computing Services.

DIVISION FOR PUBLIC SERVICE AND EXTENDED EDUCATION

The Division for Public Service and Extended Education is committed to outreach and response to regional needs, while strengthening the national and international recognition of UNCW. Using modern telecommunications as well as traditional methods, the division links the expertise of faculty, staff, and other professionals to a diverse audience. The division develops and implements personal and cultural enrichment opportunities for all ages; provides community services and regional development assistance; and delivers programs to educate the work force in global affairs, new technology, and managerial and professional improvement.

PUBLIC SERVICE PROGRAMS

In cooperation with other units of the university and with community organizations, the division hosts forums, conferences, and institutes that promote public awareness of issues, community leadership, and technological development as well as economic progress. Many of these activities are open to the public free of charge.

The Southeastern Network for Economic Development, a regional planning program, brings leaders together from a 16-county service area to an regional strategies for the future.

The regional office of the North Carolina Small Business and Technology Development Center works through the division in cooperation with chambers of commerce, banks, and the marine trades industry to ensure assistance and support for the small business community.

Two fiber optics classrooms and full interactive capability are located in Westside Hall and Randall Library. UNCW is a member of the Cape Fear Educational Partnership Network, a consortium that links the university with the local community college, regional medical center, and high schools. It is also a member of CONCERT, a statewide consortium of universities and medical schools. Through these two distance learning networks, based on state-of-the-art broadband telecommunications technology, UNCW offers courses and other community programs for academic and non-academic credit, and can access education and professional opportunities from across the state and nation.

PERSONAL DEVELOPMENT PROGRAMS

The Division for Public Service offers a wide variety of programs designed to provide both traditional and non-traditional students with opportunities for lifelong learning. Many of these programs are offered through the nationally recognized Continuing Education Unit (CEU) system for non-academic credit, which provides one CEU for every 10 hours of class time. Some in-service courses are designed for school teachers, with renewal credit issued by the North Carolina Department of Public Instruction. The division serves as the facilitator for off campus classes and extension courses. The division is receipt-supported and must charge a fee for most of its offerings.

Programs for the general public include lectures, discussion groups, seminars, and short courses. Recent topics included art, history, photography, foreign languages, home care, and health. State, national, and international travel opportunities are also offered.

Youth courses offer enrichment for participants aged seven to 18. These include workshops on improving academic performance such as the University Children's Academy and Worlds of Wonder camp, as well as MarineQuest, which includes the Summer Science Day Camp, Coast Trek, Coast Trek International, and OceanLab programs.

PROFESSIONAL DEVELOPMENT AND LEADERSHIP PROGRAMS

The division designs specific professional training programs for local schools, businesses, and industries. University faculty and other qualified individuals provide instruction in topics such as accounting, communications, management, planning, real estate appraisal, small business administration, management and employee assistance program training. Courses for school teachers and administrators are designed to provide ongoing professional improvement or to meet certification and renewal requirements. The division welcomes inquiries from individuals or organizations interested in implementing a training program for their employees. The division provides management of professional training by contracting with the business, industrial, government, and educational sectors.

CONFERENCE ARRANGEMENTS

Conference hosting coordination is available for groups whose mission coincides with that of the University of North Carolina system. The division places special emphasis on recruiting non-profit groups with a training or educational purpose. Such conferences may range in size from 20 to 800 people, may be credit or non-credit in nature, and may last for one day or for several weeks. Available services include marketing, registration, housing accommodations, and food service.

INFORMATION

Further information concerning the Division of Public Service and Extended Education or any if its activities may be obtained by contacting the vice chancellor.

CENTER FOR MARINE SCIENCE RESEARCH

The Center for Marine Science Research at the University of North Carolina at Wilmington is dedicated to providing an environment that fosters a multidisciplinary approach to questions in basic marine research. The mission of the center is to promote basic and applied research in the fields of oceanography, coastal and wetland studies, marine biomedical and environmental physiology, and marine biotechnology and aquaculture. Faculty members conducting marine science research in the departments of Biological Sciences, Chemistry, and Earth Sciences participate in this program.

The center fosters research programs of the highest quality and thereby enhances the educational experience provided by the University of North Carolina at Wilmington for both undergraduate and graduate students in marine science.

The center's primary facilities are located on a four-acre tract near the Intracoastal Waterway at Wrightsville Beach. Encompassing 20,000 square feet, these facilities house 15 research laboratories, various science and administrative offices, a video equipment/editing room, a fully equipped machine tool shop, an aquatic specimens holding room, a seminar/conference room and a USDA-licensed animal facility. Additional laboratory space is available for research requiring constant flow-through seawater.

The center maintains eight research vessels ranging in size from 13 to 22 feet and specialized equipment including a Superphantom Remotely Operated Vehicle, a low temperature aquarium room, and an extensive microscopy capability including transmission electron, inverted, phase-contrast, and confocal tandem scanning.

The Center for Marine Science Research serves as host for the NOAA sponsored National Undersea Research Center for the Southeastern United States. Based upon competitive proposals, NURC annually supports fisheries management, ocean-floor processes, and other research projects from the Gulf of Maine to the Gulf of Mexico.

The headquarters for the North Carolina National Estuarine Research Reserve is located at the Center for Marine Science Research through a cooperative agreement with the N.C. Division of Coastal Management. The NCNERR program manages four estuarine reserve sites as natural laboratories and coordinates research and education activities. The four sites, Zeke's Island, Rachel Carson Island, Currituck Banks, and Masonboro Island represent biologically diverse, highly productive estuarine systems composed of uplands, intertidal wetlands, and open waters.

STUDENT AFFAIRS

STUDENT AFFAIRS

The basic mission of the Division of Student Affairs is to encourage student use of personal, institutional, community, and other resources toward the goals of individual development, self-fulfillment, and a responsible citizenship. Its programs and services are directed toward assisting students in their educational and personal development.

OFFICE OF THE DEAN OF STUDENTS

The Office of the Dean of Students serves as the primary focal point for addressing student needs, issues and concerns, and serves as a resource and referral office for all faculty, staff and students. Acting in an advocacy role, the dean and assistant dean of students represent the student perspective to the university community. This office works with all segments of the university to help students develop through opportunities, advice and assistance. Within the Student Affairs Division, the Office of the Dean of Students provides consultation, new program development and assistance to the vice chancellor with special projects. Specifically, the office advises the Greek Affairs; publishes the Student Handbook and Code of Student Life; administers the student judicial system, including violations of the Academic Honor Code; assists the Office of Federal Compliance in processing cases of discriminatory personal conduct, including sexual harassment; and serves as the university liaison to the Council of Ministries. Additionally, the Office of the Dean of Students coordinates programs and policy on rape prevention and assistance, substance abuse education and prevention, and implements developmental programs to meet assessed and perceived student needs. The Office of the Dean of Students also provides supervision for ALTERNATIVES! (the Substance Abuse Education and Prevention Program), and the Office of Campus Recreation.

ALTERNATIVES!

The ALTERNATIVES! program is responsible for providing a systematic and comprehensive set of services for substance abuse education and prevention to all segments of the university community. The center serves as a highly visible and accessible multi-media resource area containing drug education materials, as well as information on alternatives to drug use. Personal growth and self-concept enriching experiences are provided to students through alternative learning opportunities. The center serves as a clearinghouse for other campus and community resources and provides consultation, information, or referral as appropriate. Additional educational opportunities for the entire campus are offered as needed. The terms "substance" and "drug" are intended to include all psychoactive chemicals including alcohol, stimulants, depressants, opiates, and hallucinogens.

REACH OUT!

The mission of REACH OUT! is to assist members of the university community in defining sexual violence, identifying many of the underlying factors that contribute to it and developing the means to end the violence. The REACH OUT! programs provide to the campus community educational programs and services addressing issues related to sexual violence. This includes distribution of information for those affected by assault, and sponsorship of events and programs to raise community awareness. REACH OUT! offers peer education program including both paid and volunteer opportunities for involvement. It is hoped that this heightened awareness will enable both men and women to develop skills for building violence-free relationships.

OFFICE OF CAMPUS RECREATION

The Office of Campus Recreation organizes and administers a variety of recreational services that are either structured or self-directed and enhance the overall wellness of the university community. The primary goal of the program is to provide for quality recreational experiences within the university environment and direct this toward the individual's physical, cognitive and social domains thus enhancing the educational experience. This goal is accomplished by offering a wide variety of recreational activities, conducting educational workshops and providing professional training for student employees. The Office of Campus Recreation provides a multi-faceted program which includes: Aerobics/Fitness Programs, Intramural Activities, Discover Outdoor Programs, Club Sports and Special Events. Campus Recreation at UNCW takes a "something for everyone" approach.

DISCOVER OUTDOOR CENTER

Discover Outdoor Programs, the outdoor adventure component of the Office of Campus Recreation, provides opportunities for the UNCW community to participate in exciting, meaningful and educational leadership training, trust, communication and teamwork while having an opportunity to gain healthy life-long leisure skills. Programs offered through Discover include: The Discover Outdoor Center, adventure trips, the UNCW Challenge "Ropes" Course, outdoor equipment rentals, clinics and workshops.

UNIVERSITY UNION

The University Union department exists to provide support and give direction to out-of-classroom learning. Based on the philosophy that the process of learning is not confined to the classroom, but is constant and ongoing, the mission of the department is to facilitate the educational process by providing a laboratory experience for student growth, and an arena for the development of cultural, social leadership, and recreational awareness. This is accomplished through the administration of the University Union and University Center facilities, programs and services, providing resources to student leaders and organizations, and serving as the campus's central point of reference in regard to leadership development student activities and organizations.

STUDENT DEVELOPMENT CENTER

The Student Development Center provides confidential individual and group counseling for personal, social, career or educational concerns. Decision-making resources for careers and college majors include a computer guidance system, interest testing, and an information library. Special assistance is offered with learning strategies, study, reading and exam-taking skills.

Workshops are regularly scheduled on these topics as well as on personal growth, communication skills and stress management. As part of the university substance abuse education and prevention program, the center also provides a substance abuse assessment, referral and treatment for students.

The center acts as a clearinghouse for disabled students' concerns and assists with tutoring, equipment and advocacy needs. The office also administers national testing programs such the GRE, GMAT, PRAXIS, MAT, and LSAT.

Consulting and referral services are provided by the center's staff for university faculty, staff and student groups.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center provides career planning and placement services to students and alumni of UNCW.

Assistance in developing career plans is available through individual advising, workshops and seminars. The office also provides information and counseling on careers, specific job requirements, employers, and graduate school programs. Students are encouraged to use these services early in their college career.

The office publicizes specific job openings (part-time, summer and full-time); makes individual referrals; schedules recruiting visits; maintains company recruiting literature; and provides information about public and private schools, and state and federal government opportunities.

Students should register with the Career Planning and Placement Center in their junior or early in their senior year to establish a credentials file and to avail themselves of all placement services including resume writing, interviewing skills and job search training.

HOUSING AND RESIDENCE LIFE

The Office of Housing and Residence Life is responsible for the development of educational, cultural and social programs to enhance student life on campus. The goal of the Housing and Residence Life program is to create an environment conducive to academic pursuits and personal growth of resident students. Over 45 Residence Life staff are responsible for the supervision of resident students in the residence halls, on-campus apartments, and suite-style buildings. The university has residence hall facilities for approximately 1,900 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished. Laundry facilities are located in each residence area. The Residence Life program offers opportunities for student employment, leadership positions through hall governance, and services of an eleven acre recreation field. Students living on campus are required to participate in the university dining hall program.

FOOD SERVICE

The UNCW Food Service operation is committed to providing quality food products served in clean and comfortable facilities. The program is available to all students, faculty, and staff seven days a week when classes are in session. Wagoner Dining Hall, built in 1989, is a modern 600-seat facility that serves unlimited seconds on every meal. Cash operations include: The Hawk's Nest, located in the University Union; Center Stage Cafe, located in the University Center; a pizza delivery program, and a convenience store located in Apartment Building M.

Information about commuter student meal plans is available at the Food Service Office in Wagoner Hall (395-3178).

I.D. Plus

UNCW I.D. Plus permits you to make purchases using your UNCW I.D. at a variety of locations on campus. I.D. Plus can be used in all food service locations, vending machines, bookstore, copying machines, pharmacy, and laundry equipment in the residence hall area. There is no minimum deposit required and your deposit can be made in the Auxiliary Services Office in Wagoner Hall as well as in the Parking and I.D. Office in the Burney Student Support Center.

STUDENT HEALTH AND WELLNESS CENTER

The Student Health and Wellness Center (SHWC), located in Westside Hall, is open 8:30 a.m to 5:00 p.m., Monday through Friday. For urgent care after 5:00 p.m. during the week and all weekend, a practioner is on call to provide information and or referral.

The Student Health and Wellness Center (SHWC) provides diagnosis and treatment of general and acute medical problems. The health fee is part of the student fee and entitles students taking six or more credit hours* (living on or off campus) to health care services.

In addition to the treatment of general medical problems, the scope of services include: laboratory testing to diagnose a variety of medical problems, allergy injections, gynecologic examination and counseling, weight control and nutrition counseling, smoking cessation, crisis intervention, and referral as indicated. The Student Health and Wellness Center does not issue excuses for class absences due to illness.

Each newly admitted UNCW student is required to submit to the SHWC prior to enrollment a complete and up to date Immunization Record required by the N.C. Immunization Law (General Statues 130A-152).

FAILURE TO COMPLY WITH IMMUNIZATION LAW WILL RESULT IN REGISTRATION BEING BLOCKED OR ERASED.

*Students taking less than six hours will be entitled to health care services upon payment of the health fee and will be required to have the above forms on record.

Student Health Insurance

The student health fee covers most medical care given at the Student Health and Wellness Center on a prepaid basis. The health fee will not cover the costs of a student who requires hospitalization or specialty care. It is strongly recommended that students who are not covered for major medical expenses (serious injuries due to accidents or hospitalization) under their family health insurance contact the SHWC or the Office of the Dean of Students for information and forms regarding the Student Group Health Insurance Plan available at a nominal cost through the university.

LIVWELL CENTER FOR HEALTH PROMOTION

The LivWELL Center for Health Promotion is committed to fostering a campus community that encourages and supports healthier lifestyle choices. As the wellness outreach program of the Student Health and Wellness Center, the LivWELL Center located in Westside Hall provides an informal setting where a variety of wellness resources can be used. These include drop-in services for self care opportunities including blood pressure checks, nutritional assessments, weight scales, a video-resource library and individual consultations on lifestyles issues and concerns. LivWELL serves as a site for student work opportunities and sponsors regular seminars and campus-wide health promotion events throughout the year.

PHARMACY

The UNCW Student Pharmacy is located off the lobby upstairs in Westside Hall. Students may fill prescriptions from any provider and may purchase a variety of over-the-counter medications. Crutches are also available for rental. The telephone number is 395-3016.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington routinely has made public certain information about its students. Typically, UNCW releases the names of students who are selected by the various honorary societies, receive scholarships, make the Dean's List, hold offices, or

are members of athletic teams. The annual commencement program publishes the names of persons who have received degrees from UNCW during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following information: the students name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The university will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing.

Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration thereafter.

STUDENT CONDUCT

The filing of an application of admission shall be construed as both an evidence and pledge that the applicant accepts the standards and regulations of the University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, is obligated to obey all rules and regulations of the university as stated in the *Student Handbook and Code of Student Life*, the university catalogue and other university publications. The university reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

A policy statement was adopted by the Board of Trustees of the former consolidated University of North Carolina on October 26, 1970. It is set forth in Chapter V of the Code Provisions Governing the University of North Carolina, and is set forth in full in the *Student Handbook and Code of Student Life*.

POLICY STATEMENT ON ILLEGAL DRUGS

Students, faculty members, administrators, and other employees of the University of North Carolina at Wilmington are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or manufacture those drugs designated collectively as "controlled substances" in Article 5 of Chapter 90 of the North Carolina General Statues. A copy of this law is available in the following offices: Human Resources, Dean of Students, and Academic Affairs. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. In accordance with policy adopted by the Board of Governors of the University of North Carolina and the Board of Trustees of UNCW, disciplinary proceedings against a student, faculty member, administrator, or other employee will be initiated when the alleged conduct is deemed to affect the interests of UNCW.

Penalties will be imposed for violation of the policies of UNCW only in accordance with procedural safeguards applicable to disciplinary actions against students, faculty members, administrators, and other employees. The penalties that may be imposed range from written warnings with probationary status to expulsions from enrollment and discharges from employment. For more information, please refer to the Code of Student Life, The Code of the University of North Carolina (Section 603) and Personnel Procedure No. 610.

Every student, faculty member, administrator, and other employee of UNCW is responsible for being familiar with, and complying with, the terms of the policy on illegal drugs adopted by the Board of Governors of the University of North Carolina and the Board of Trustees of UNCW. Copies of the full text of the policy appear below as well as in the Code of Student Life, Faculty Handbook, and it is available in the Office of Human Resources.

Policy On Illegal Drugs

Introduction

The fundamental purpose of the University of North Carolina at Wilmington (UNCW) is to maintain an environment that supports and encourages the pursuit and dissemination of knowledge. That environment is damaged by illegal drug use. Therefore, all members of the academic community, students, faculty members, administrators, and other university employees, share the responsibility for protecting the environment by exemplifying high standards of professional and personal conduct.

Policy and Program

A. The illegal use, possession, sale, delivery and/or manufacture of drugs will not be tolerated and may be grounds for immediate suspension or dismissal of students, faculty members, administrators and other university employees.

B. UNCW policies and programs are intended to emphasize:
   1. The incompatibility of the use or sale of illegal drugs with the goals of the university.
   2. The legal consequences of involvement with illegal drugs.
   3. The medical implications of the use of illegal drugs.
   4. The ways in which illegal drugs jeopardize an individual's present accomplishments and future opportunities.

C. UNCW will provide a systematic substance abuse education and prevention program designed to reach all segments of the campus community. To assist in accomplishing this mission, the Center for Substance Abuse Education and Prevention is developing a well-integrated centralized program that is a focal point for campus substance abuse education, training and prevention, and will monitor the effectiveness of programs for constituencies served. This center provides substance abuse counseling and referral services on campus and in the external community. It also provides consultative services to offices and agencies in the university environment and collaborates with the Employees Assistance Coordinator in the university's Office of Human Resources to develop counseling and referral services for faculty and staff desirous of seeking assistance off-campus. This UNCW policy is presented within the four areas of education, counseling and rehabilitation, enforcement and penalties, and assessment.

Education

A. Provide a system of accurate, current information exchange on the health risks and symptoms of drug use for students, faculty and staff.

B. Promote and support institutional activity programming that discourages substance abuse.

C. Establish collaborative relationships between community groups and agencies and the institution for education, treatment and referral.

D. Provide training programs for students, faculty, and staff to enable them to detect problems related to drug use, and to refer persons with these problems to appropriate assistance.

E. Include information about drugs for students and family members in the student orientation programs. The use of prescription and over-the-counter drugs will be addresses.

F. Support and encourage faculty in incorporating education about drugs into the curriculum where appropriate.

G. Develop a coordinated effort across campus for drug-related education, treatment and referral.

Counseling and Rehabilitation

A. UNCW provides information about drug counseling and rehabilitation services available to members of the university community. Persons who voluntarily avail themselves of university services can be assured that applicable professional standards of confidentiality will be observed. Counseling and rehabilitation services include:
   1. Provision of training for professional staff and student staff on drug abuse information, intervention and referral.
   2. Conducting education programs for students who have demonstrated abusive behavior with drugs.
   3. Conducting individual and group counseling for members of the university community with drug problems.
   4. Conducting drug abuse assessments.
   5. Coordinating referral and follow up of campus individuals and developing a referral and follow up mechanism in collaboration with the employee assistance coordinator in the Office of Human Resources.
   6. Organizing campus self-help groups.
   7. Providing consultation, information and referral for students, staff and faculty with drug problems.
   8. Designing and developing referral opportunities for members of the university community who desire to seek professional assistance beyond the campus. This will be done in cooperation with the employee assistance coordinator in the Office of Human Resources.
   9. Providing with peer involvement a system of intervention and referral services for students, faculty and staff.

B. In providing the above prevention strategies, it is recognized that some campus constituents may prefer professional assistance external to the campus. The campus community substance abuse education and prevention program coordinator will collaborate with the employee assistance coordinator in the development of

appropriate referral mechanisms for these individuals. A listing of off campus resources for assistance and referral will be made available for those who choose that option. In the development of this program, it is desired that faculty, students, administrators and other employees be comfortable in the manner in which they are served and have a choice in the selection of appropriate assistance. Individuals served in the counseling program on campus can be assured that confidentiality will be maintained and that they will be served by professionals.

Enforcement and Penalties

A. Enforcement

In seeking to enforce established university policy, the University of North Carolina at Wilmington will:

1. Publicize all drug policies.
2. Consistently enforce drug policies.
3. Exercise appropriate disciplinary action for drug policy violations.

B. Penalties

UNCW shall take actions necessary, consistent with state and federal law and applicable university policy, to eliminate illegal drugs from the university community. University policy on illegal drugs will be publicized in the university catalogue, student and faculty handbooks, student orientation materials, letters to students and parents, residence hall meetings and faculty and employee meetings.

Students and faculty members, administrators, and other employees are responsible as citizens for knowing about the complying with the provisions of the North Carolina law that makes it a crime to possess, sell, deliver, or manufacture drugs designated collectively as "controlled substances" in Article V, Chapter 90 of the North Carolina General Statutes. Any member of the university community who violates that law is subject both to prosecution and punishment by the civil authorities and to disciplinary proceedings by UNCW. It is not "double jeopardy" for both the civil authorities and the university to proceed against and punish a person for the same specified conduct. The university will initiate its own disciplinary proceedings against the student, faculty member, administrator, or other employee when the alleged conduct is deemed to affect the interest of the university.

Penalties will be imposed by UNCW in accordance with procedural safeguards applicable to disciplinary actions against students (see Code of Student Life, Section II), faculty members (see Policies of Academic Freedom and Tenure, UNCW, Section VII), and administrators and other employees (see Procedure No. PER 6.10 and Personnel Policies of Designated Employment Exempt from State Personnel Act - EPA Administrative Positions).[1]

The penalties to be imposed by the university may range from written warning with probationary status to expulsion from enrollment and discharge from employment; however, the following minimum penalties shall be imposed for the particular offenses described.

1. Trafficking in Illegal Drugs
   a. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell, or deliver any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-91 through 90-94, (including, but not

limited to, heroin, mescaline, lysergic acid diethylamide, opium, cocaine, amphetamine, methaqualine), any student shall e expelled and any faculty member, administrator, or other employee shall be discharged.

b. For a first offense involving the illegal manufacture, sale or delivery, or possession with intent to manufacture, sell or deliver, any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, (including, but not limited to, marijuana, pentobarbitals, codeine), the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
For a second offense, any student shall be expelled and any faculty member, administrator, or other employee shall be discharged.

2. Illegal Possession of Drugs
   a. For a first offense involving the illegal possession of any controlled substance identified in Schedule I, North Carolina General Statutes 90-89, or Schedule II, North Carolina General Statutes 90-90, the minimum penalty shall be suspension from enrollment or from employment for a period of at least one semester or its equivalent.
   b. For a first offense involving the illegal possession of any controlled substance identified in Schedules III through VI, North Carolina General Statutes 90-91 through 90-94, the minimum penalty shall be probation, for a period to be determined on a case-by-case basis. A person on probation must agree to participate in a drug education and counseling program, consent to regular drug testing, and accept such other conditions and restrictions, including a program of community service as the chancellor or chancellor's designee deems appropriate. Refusal or failure to abide by the terms of probation shall result in suspension from enrollment or employment for any unexpired balance of the prescribed period of the probation.
   c. For the second or other subsequent offenses involving the illegal possession of controlled substances, progressively more severe penalties shall be imposed, including expulsion of students and discharge of faculty members, administrators, or employees.
3. Suspension Pending Final Disposition
   When a student, faculty member, administrator, or university employee has been charged by UNCW with a violation of policies concerning illegal drugs, he or she may be suspended from enrollment and/or employment before initiation or completion of regular disciplinary proceedings if, assuming the truth of the charges, the chancellor, or in the chancellor's absence, the chancellor's designee concludes that the person's continued presence within the university community would constitute a clear or immediate danger to the health or welfare of other members of the university community; provided that, if such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held as promptly as possible thereafter.

Assessment

A. UNCW shall in its effort to continually assess the campus environment:
   1. Appraise the institutional environment as an underlying cause of drug abuse.
   2. Assess campus awareness, attitudes, and behaviors regarding the use of drugs and employ results in program development.
   3. Collect and use drug related summary information from policy and security reports to guide program development.

4. Collect and use summary health, counseling, and client information to guide program development.
5. Collect summary data regarding drug-related disciplinary actions and use them to guide program development.

B. Annually, the chancellor shall submit to the Board of Trustees a report of campus activities related to illegal drugs for the preceding year. The report shall including the following:
1. A listing of major education activities conducted during the year;
2. A report on any illegal drug related incidents, including any sanctions imposed;
3. An assessment by the chancellor of the effectiveness of the campus program; and
4. Any proposed changes in university policy on illegal drugs. The chancellor shall provide a copy of his report to the president.

[1]Rules of the State Personnel Commission govern the disciplinary actions that may be taken against SPA employees. Under current commission regulations discharge, rather than suspension, is the applicable penalty for SPA employees in those instances where this policy otherwise requires suspension.

STUDENT LIFE

STUDENT LIFE

UNIVERSITY UNION/UNIVERSITY CENTER

Student life is enriched at the University of North Carolina at Wilmington by a broad spectrum of activities, most of which occur in or around the University Union and University Center. The Union is a 53,000 square-foot facility that houses students organization offices, conference rooms, lounges, study areas, the Hawk's Nest snack bar, rental lockers, the University Information Center, and an assortment of student services. Across the street from the Union is the 43,000 square foot University Center, with the U.S. Post Office, automatic teller machines, recreation and games facilities, lounges, Center Stage Cafe, ballroom, and space for large or small events. Both buildings have art galleries with monthly exhibits open to the public. With the belief that education is not bound to the classroom, it is the union's goal to educate, entertain and enlighten the university community, while providing a laboratory for student growth and an arena for development of cultural, social and recreational awareness.

CAMPUS ACTIVITIES OFFICE

Student organizations, Arts-in-Action, Association for Campus Entertainment (ACE), and UNCW Volunteers are located in the Campus Activities Office within the University Union. Together they complement the academic programs. Students develop, participate in and are exposed to social, cultural, multicultural, intellectual, community service and campus governance programs.

THE LEADERSHIP CENTER

The Leadership Center, within the University Union, provides a comprehensive program that promotes leadership and organizational development and awareness of contemporary issues through experiential leadership training, education and development activities. These activities are varied, but include workshops, retreats, publications, outdoor adventure, resources, seminars, consultations, community service, and self-assessments. Through collaboration among Student Affairs staff and academic faculty, a cohesive program encourages students to recognize, evaluate and cultivate the potential strengths within themselves and others.

These programs improve the quality of the overall campus experience by providing opportunities to learn about and practice leadership. Ultimately, the program goal is to create a dynamic process that will continue after the student's college experience and encourage them to improve the world as active citizens in our changing democracy.

UNCW VOLUNTEERS

UNCW Volunteers, located in the Campus Activities Office in the University Union, helps students, faculty, and staff locate volunteer opportunities in New Hanover County. The emphasis is on learning leadership through serving.

MINORITY AFFAIRS OFFICE

The Minority Affairs Office is responsible for the implementation of programs and activities designed to enhance the overall experiences of minority students at UNCW. Through direct sponsorship of or participation in Minority Visitation Day, orientation, workshops, recruitment, a Minority Mentor Program, the Tutorial Assistance Program, and other activities, the office

provides an added dimension to the traditional services offered to UNCW students. All students are invited to visit the office, in room 211 of the University Union, or call 919-395-3832, to discuss ways in which the office may be of service.

UNIVERSITY INFORMATION CENTER

The Information Center, located on the first floor of the University Union, provides a variety of information on campus, student and community activities, as well as campus telephone numbers. The center also provides discount movie ticket sales, concert and event ticket sales, provides campus lost and found, magazine and newspapers, umbrella check-out, locker rentals, vending machine refunds and change.

POSTAL SERVICES

UNCW Postal Services provides mail services to the campus community through the UNCW Station, a USPS contract station located in the University Center. Mailing and express services, FAX service, money orders, and mailing supplies are available Monday through Friday, 8:30 a.m. to 4:30 p.m.

UNCW provides each student with a post office box which serves as his or her official address. Mail boxes are required for fall and spring semesters and are issued on request for summer sessions. These boxes are used for all university correspondence (except tuition bills and grades) and should be checked regularly.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the university is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interest of the university and upholding a high standard of morals and conduct. It is responsible for the disbursement of the student activity fee money. This supports the Student Government Association in its objectives and provides for campus activities. The association is a member of the North Carolina Association of Student Governments.

ASSOCIATION FOR CAMPUS ENTERTAINMENT (ACE)

The Association for Campus Entertainment, a committee of SGA, located in the Campus Activities Office, coordinates the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, and cultural growth for students and the campus community. ACE is comprised of the following committees: Fine Arts/Lecture, Film-Video, Concert, Cultural Arts, Homecoming, and Special Events. The board is a member of the National Association for Campus Activities.

STUDENT ORGANIZATIONS

Over 100 social, academic, and service organizations enhances student life at UNCW. National sororities and fraternities are established on the campus to recognize students for their leadership and service activities. Several departments in the university have locally and nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. Special interest groups address a variety of areas, including political, religious,

sports, and professional interests. Students are encouraged to contact the Campus Activities Office for specific information relative to a student organization.

MEDIA AND PUBLICATIONS

The Seahawk, the student newspaper, is published weekly. Its staff is composed entirely of students.

The Atlantis, a literary magazine, is published by students each spring.

The Channel Marker is a newsletter and calendar published monthly by the Campus Activities Office to provide information regarding the dates and times of campus events, and to relate information to student organizations.

The Student Handbook and Code of Student Life is the primary source of information regarding university regulations and campus life.

WLOZ, the campus cable radio station, is completely run by students. The station broadcasts daily.

NATIONAL STUDENT EXCHANGE (NSE)

Students can participate in this exciting and challenging program that provides an opportunity to attend (for one year or one semester) another NSE network university. At little or no more cost to students than they are now paying, this is an opportunity to experience new places, ideas and cultures while attending a school that complements and supplements the course offerings at another institution, as it becomes a "satellite campus" of UNCW. Campus coordination is provided by the University Union department.

ATHLETICS

The university holds membership in the National Collegiate Athletic Association, Eastern College Athletic Conference, and the Colonial Athletic Association.

Varsity intercollegiate teams are fielded for men in basketball, cross country, baseball, golf, soccer, tennis, swimming, and track and field. Variety intercollegiate teams for women are fielded in basketball, softball, tennis, volleyball, swimming and diving, golf, cross country, track and field, and soccer.

EXPENSES

EXPENSES

The Board of Governors of the University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Tuition and Fees (In effect at time of publication)

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to the University of North Carolina at Wilmington.

Full-Time Charges Per Semester (nine or more semester hours):

	In-State Students	Out-of-State Students
Tuition	$370.00	$3,403.00
Fees	376.00	376.00
Total	$746.00	$3,779.00

The following student activities fees are included in the full-time tuition and fee amount per semester.

	In-State	Out-of-State
Technology	$ 22.50	$ 22.50
Student Support	7.50	7.50
Athletic Fee	116.50	116.50
Health Services	55.00	55.00
SGA	20.50	20.50
Student Union Facilities	53.50	53.50
Intramurals	11.00	11.00
Postal	4.00	4.00
Athletic Facilities	32.00	32.00
Cultural Events	5.00	5.00
Student Union Debt	38.50	38.50
Physical Education Debt	10.00	10.00
Subtotal	$376.00	$376.00

Other fees:

Application Fee (to accompany application, nonrefundable)	$25.00
Transcript Fee	2.00
Graduation Fee	50.00
Parking Fee (per year)	80.00

Graduate students registering for nine or more semester hours will be charged at the full-time rate as shown above. Students scheduling fewer than nine semester hours will pay tuition and fees as follows:

Semester Hours	In-State Students	Out-of-State Students*
0-Thesis only	$191.00	$ 567.00
1-2	$128.00	$ 886.00
3-5	$227.00	$1,744.00
6-8	$477.50	$2,751.50
9 or more	$746.00	$3,779.00

*See information on residency at the end of this section.

No degree, diploma, transcript of credit, or grades will be furnished a student until all financial obligations to the university, other than student loans, have been paid. All previously incurred expenses and accounts at the university must be paid in full prior to preregistration or registration for a new term.

On-Campus Living

The university has residence hall facilities for approximately 2,000 students in five modern, conveniently located residence halls, 13 apartment buildings, and seven suite-style buildings. All rooms are air-conditioned and furnished, and laundry facilities are available. Residence hall, apartment and suite students are required to participate in the university dining hall program under one of the three meal plans. The university operates a modern, air-conditioned cafeteria building. Short-order food service is available in the Hawk's Nest located in the University Union, in the Center Stage Cafe located in the University Center, specializing in pizza and subs, and the convenience store located in apartment building M. Service is on a cash basis for non-boarding students. The Housing and Food Service operations are closed during Thanksgiving, Christmas, and spring breaks.

MEAL PLAN OPTIONS

A meal plan is required for all students living on campus. The options available are listed below. The student identification card also serves as the student meal card and must be presented at every meal. Student meal cards are not transferable to another student or guest.

1993-94 SEMESTER BOARD RATES

PLAN A: 9 meals and $100.00 balance = $760.00

Any 9 meals during the 7-day week at Wagoner Dining Hall plus a $100 declining balance (for the semester) that can be used at the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN B: 14 meals per week and $100.00 balance = $830.00

Any 14 meals during the seven day week at Wagoner Dining Hall plus a $100.00 declining balance (for the semester) that can be used at the Hawk's Next, Seahawk Station, Center Stage Cafe, ITZA PIZZA, or for guests at Wagoner Dining Hall. Additional cash may be added to the card at the student's discretion.

PLAN C: 19 meals per week = $830.00

Allows 19 meals per week, 3 meals a day Monday through Friday, brunch and dinner on Saturday and Sunday. A $2.00 transferability will allow student to use the meal card at the Hawk's Nest or Center Stage Cafe for lunch Monday through Friday. Students may opt to add cash for declining balance that can be used in the Hawk's Nest, convenience store, Center Stage Cafe, ITZA PIZZA or for guests at Wagoner Dining Hall.

1993-94 SEMESTER ROOM AND BOARD RATES

Room rate includes: rent, utilities, local phone service, cable TV, housekeeping (except apartments) and security.

Belk, Graham, Hewlett, Schwartz and Galloway	
with 9 meal plan	$1,775
with 14 meal plan	$1,840
with 19 meal plan	$1,840
Apartment	
with 9 meal plan	$1,985
with 14 meal plan	$2,050
with 19 meal plan	$2,050
Double Suite	
with 9 meal plan	$1,875
with 14 meal plan	$1,940
with 19 meal plan	$1,940
Single Suite	
with 9 meal plan	$1,985
with 14 meal plan	$2,050
with 19 meal plan	$2,050

This contract is for both fall and spring semesters. Room and board fees are per semester costs. Students entering into this agreement in the fall and spring semester are liable for the room and board charges for the spring semester. No refund of room charges will be made once a student officially moves into a residence hall/apartment/suite.

The university reserves the right to change the room and board rates without prior notice.

An advance room reservation deposit of $100.00 to be applied to the room and board account must be remitted by each applicant along with the complete application for room and board.

Those interested in obtaining information should contact:

The Housing and Residence Life Office
The University of North Carolina at Wilmington
601 South College Road
Wilmington, North Carolina 28403-3297
Telephone (910) 395-3178

Summer Session

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

Refunds - Tuition and Fee

A student who officially withdraws from the university on or before the last day of the registration (Drop/Add) period will receive a refund of the amount paid.

Students withdrawing from the university after the Drop/Add period will be charged ten (10) percent of all semester charges for each week of classes that have been held that semester. This weekly charge begins with the first day of scheduled classes regardless of the actual date of enrollment.

No refunds will be made for withdrawals after the end of the ninth week of scheduled classes.

This refunds policy applies to complete withdrawals from UNCW. If you simply reduce your course load after the Drop/Add period, you will receive **NO** refund or reduction of fees whatsoever.

Refunds - Room and Board

A student who officially withdraws from the university on or before the schedule residence hall opening date will received a refund of the amount paid.

Students withdrawing from the university after the scheduled residence hall opening date will be charged ten (10) percent per week for room and board charges for the first ten weeks of the semester. Declining balance portions of board plans will be refunded separately. No refunds will be made for withdrawals after the first ten weeks.

This refund policy applies to complete withdrawals from UNCW.

Residence Status for Tuition Payment

The basis for determining the appropriate tuition charge rests upon whether a student is a resident or a nonresident for tuition purposes. Each student must make a statement as to the length of his or her residence in North Carolina, with assessment by the institution of that statement to be conditioned by the following:

Residence. To qualify as a resident for tuition purposes, a person must become a legal resident and remain a legal resident for at least 12-months immediately prior to classification. Thus, there is a distinction between legal residence and residence for tuition purposes. Furthermore, 12-months legal residence means more than simple abode in North Carolina. In particular, it means maintaining a domicile (permanent home of indefinite duration) as opposed to maintaining a mere temporary residence or abode incident to enrollment in an institution of higher education. The burden of establishing facts that justify classification of a student as a resident entitled to in-state tuition rates is on the applicant for such classification, who must show his or her entitlement by the preponderance (the greater part) of the residentiary information.

Initiative. Being classified a resident for tuition purposes is contingent on the student's seeking such status and providing all information that the institution may require in making the determination.

Parent's Domicile. If an individual, irrespective of age, has living parent(s) or court-appointed guardian of the person, the domicile of such parent(s) or guardian is, prima facie, the domicile of the individual; but this prima facie evidence of the individual's domicile may or may not be sustained by other information. Further, nondomiciliary status of parents is not deemed prima facie evidence of the applicant child's status if the applicant has lived (though not necessarily legally resided) in North Carolina for the five years preceding enrollment or re-registration.

Effect of Marriage. Marriage alone does not prevent a person from becoming or continuing to be a resident for tuition purposes, nor does marriage in any circumstances insure that a person will become or continue to be a resident for tuition purposes. Marriage and the legal residence of one's spouse are, however, relevant information in determining residentiary intent. Furthermore, if both husband and his wife are legal residents of North Carolina and if one of them has been a legal resident longer than the other, then the longer duration may be claimed by either spouse in meeting the 12-month requirement for in-state tuition status.

Military Personnel. A North Carolinian who serves outside the state in the armed forces does not lose North Carolina domicile simply by reason of such service. And students from the military may prove retention or establishment of residence by reference, as is other cases, to residentiary acts accompanied by residentiary intent.

In addition, a separate North Carolina statute affords tuition rate benefits to certain military personnel and their dependents even though not qualifying for the in-state rate by reason of twelve months legal residence in North Carolina. Members of the armed services, while stationed in and concurrently living in North Carolina, may be charged a tuition rate lower than the out-of-state tuition rate to the extent that the total of entitlements for application tuition costs available from the federal government, plus certain amounts based under a statutory formula upon the in-state tuition rate, is a sum less than the out-of-state tuition rate for the pertinent enrollment. A dependent relative of a service member stationed in North Carolina is eligible to be charged the in-state tuition rate while the dependent relative is living in North Carolina with the service member and if the dependent relative has met any requirement of the Selective Service System applicable to the dependent relative. These tuition benefits may be enjoyed only if the applicable requirements for admission have been met; these benefits alone do not provide the basis for receiving those derivative benefits under the provisions of the residence classification statute reviewed elsewhere in this summary.

Grace Period. If a person (1) has been a bona fide legal resident, (2) has consequently been classified a resident for tuition purposes, and (3) has subsequently lost North Carolina legal residence while enrolled at a public institution of higher education, that person may continue to enjoy the in-state tuition rate for a grace period of 12-months measured from the date on which North Carolina legal residence was lost. If the 12-months end during an academic term for which the person is enrolled at a state institution of higher education, the grace period extends, in addition, to the end of that term. The fact of marriage to one who continues domicile outside North Carolina does not by itself cause loss of legal residence, marking the beginning of the grace period.

Minors. Minors (persons under 18 years of age) usually have the domicile of their parents, but certain special cases are recognized by the residence classification statue in determining residence for tuition purposes.

(a) If a minor's parents live apart, the minor's domicile is deemed to be North Carolina for the time period(s) that either parent, as a North Carolina legal resident, may claim and does claim the minor as a tax dependent, even if other law or judicial act assigns the minor's domicile outside North Carolina. A minor thus deemed to be a legal resident will not, upon achieving majority before enrolling at an institution of higher education, lost North Carolina legal residence if that person (1) upon becoming an adult acts, to the extent that the person's degree of actual emancipation permits, in a manner consistent with bona fide legal residence in North Carolina and (2) begins enrollment at an institution of higher education not later than the fall academic term following completion of education prerequisite to admission at such institution.

(b) If a minor has lived for five or more consecutive years with relatives (other than parents) who are domiciled in North Carolina and if the relatives have functioned during this time as if they were personal guardians, the minor will be deemed a resident for tuition purposes for an enrolled term commencing immediately after at least five years in which these circumstances have existed. If under this consideration a minor is deemed to be a resident for tuition purposes immediately prior to his or her eighteenth birthday, that person on achieving majority will be deemed a legal resident of North Carolina of at least 12-months duration. This provision acts to confer in-state tuition status even in the face of other provisions of law to the contrary; however, a person deemed a resident of 12-months duration pursuant to this provision continues to be a legal resident of the State only so long as he or she does not abandon North Carolina domicile.

Lost but Regained Domicile. If a student ceases enrollment at or graduates from an institution of higher education while classified a resident for tuition purposes and then both abandons and reacquires North Carolina domicile within a 12-month period, that person, if he or she continues to maintain the required domicile into re-enrollment at an institution of higher education, may re-enroll at the in-state tuition rate without having to meet the usual 12-month durational requirement. However, any one person may receive the benefit of this provision only once.

Change of Status. A student admitted to initial enrollment in an institution (or permitted to re-enroll following an absence from the institutional program which involved a formal withdrawal from enrollment) must be classified by the admitting institution either as a resident or as a nonresident for tuition purposes prior to actual enrollment. A resident status classification once assigned (and finalized pursuant to any appeal properly taken) may be changed thereafter (with corresponding change in billing rates) only at intervals corresponding with the established primary division of the academic year.

Transfer Students. When a student transfers from one North Carolina public institution of higher education to another, he or she is treated as a new student by the institution to which he or she is transferring and must be assigned an initial residence status classification for tuition purposes.

The initial classification of graduate students as in-state or out-of-state residents for tuition purposes is made by the Graduate School. Appeals for in-state status may be made to the campus appeals body, Out-of State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in *"A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes."* Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the undergraduate Admissions Office and in Randall Library.

FINANCIAL AID FOR GRADUATE STUDENTS

MINORITY PRESENCE GRANT PROGRAM

Under the Board of Governors general Minority Presence Grant Program, black students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework, and demonstrate financial need. Preference is given to undergraduates.

ASSISTANTSHIPS

Graduate teaching assistantships are available on a limited basis in the Cameron School of Business Administration; School of Education; and the College of Arts and Sciences in the departments of Biological Sciences, Chemistry, Earth Sciences, English, History, Mathematics, and Psychology. A limited number of graduate research assistantships are available through the Center for Marine Science Research. The admission application process determines the candidates for these awards. For information contact the specific department/school or the Graduate School.

FELLOWSHIPS/SCHOLARSHIPS

The Graduate School's Awards for New Scholars. A limited number of scholarships are available to students entering any of UNCW's graduate programs for the first time. Students do not apply for these scholarships. Instead, nominations originate with the departments, which submit their recommendations to the dean of the Graduate School. Criteria include evidence of exceptional scholarship, normally strong GRE scores (or their equivalent) and an excellent undergraduate GPA.

The Champion McDowell Davis Scholarship is available to students from any major. This scholarship covers tuition and fees, books and other selected expenses and is awarded to students based on academic achievement, leadership potential and demonstrated financial need. A selection committee is charged with selecting the recipients each year.

The F.P. Fensel, Sr. Memorial Scholarship is awarded to a graduate student in Marine Biology. It is valued at in-state tuition and fees. Selection criteria is determined by the chairman of Biological Sciences Department.

The Perry Daniel Lockamy, Jr. Graduate Alumni Scholarship provides one annual renewable in-state tuition and fees based on academic achievement, leadership abilities, potential and financial need. Two recommendations are required. Applicants may be classified as in-state or out-of-state. Scholarships are equal to basic in-state tuition and fees. Applications may be requested from the UNCW Alumni Relations Office, completed, and returned by the designated deadline.

The Sylvia and B. D. Schwartz Graduate Fellowship Award may be awarded to any graduate student enrolled in nine hours or more at the University of North Carolina at Wilmington. Recipients shall be determined by the Graduate School and will receive an amount equal to in-state tuition and fees.

The J. W. Jackson Scholarship has a $2,000 per year value and is restricted to a junior-senior or graduate student enrolled in the Cameron School of Business Administration. The scholarship is designed for students with high academic potential. Applications can be made in the Cameron School of Business Administration. Students awarded this scholarship are eligible to reapply.

LOANS/COLLEGE WORK STUDY PROGRAM

The Mellie Hill Barlow Loan Fund is set up to provide no-interest loans to students at UNCW who are orphans or are from single-parent homes. The loans carry a legal obligation to be repaid. Applications can be made at the Financial Aid Office.

Students who are enrolled at least half time in the Graduate School at UNCW may apply for the following types of financial aid:

Federal Stafford Loan Program provides loans to graduate students who qualify on the basis of financial need. Applicants complete the regular financial aid application process in addition to completing a loan application. Students may borrow up to $8,500 per academic

year for five years. Repayment begins on the day immediately following the six-month grace period. The interest rate is calculated at a variable rate based on 91-day T-bills plus 3.10%, capped at 9%. Borrowers may be given up to 10 years to repay their loans.

Federal Unsubsidized Stafford Loan Program is a program which expands Stafford borrowing to students who do not demonstrate need based on federal guidelines. Even though the unsubsidized Stafford loan carries the same loan limits and interest rate as the subsidized Stafford loan, interest does accrue while the student is enrolled.

Federal College Work-Study Program, which is federally funded, provides part-time jobs on the UNCW campus for students who have financial need and who must earn part of their educational expenses. To be eligible for work-study, a student must be enrolled for at least half time and must be a citizen or permanent resident of the United States. The application and financial statement must demonstrate financial need.

For additional information, contact the Financial Aid Office.

GradEXCEL Educational Loan for Graduate Students offer graduate and professional students a signature loan based on projected future earnings, rather than on current income and credit worthiness. Annual loan amounts range from $2,000 to $7,500 (up to $12,000 for Graduate Law students) when a student borrows on his/her own, or up to $20,000 annually with a credit worthy co-borrower. Borrowers may choose between two interest rate options, and have three repayment options: (1) deferred principal and interest payments while enrolled; (2) deferred principal payments while enrolled; (3) fixed monthly payments of principal and interest. Repayment periods range from four to 20 years, depending on amount borrowed.

For more information or a GradEXCEL application, please call Nellie Mae at 1-800-634-9308 or (617) 849-3447, or write to: Nellie Mae, GradEXCEL Department, 50 Braintree Hill Park, Suite 300, Braintree, MA 02184.

Satisfactory Progress

To be eligible to receive or to remain eligible to receive financial aid funds, graduates must maintain "satisfactory progress" in their course of study. A determination of satisfactory progress incorporates two standards applied at the end of the regular academic year.

Standard one requires that full-time students must demonstrate successful completion of the following number of hours as determined by graduation requirements:

Master in Business. For full-time students 14 hours each academic year (approximately one-fourth of the total hours required for graduation). For half-time students six hours each academic year (approximately one-eighth of the total hours required for graduation).

Master in Education and Masters in Arts or Sciences. For full-time students 12 hours each academic year (approximately one-third of the total hours required for graduation). For half-time students six hours each academic year (approximately one-sixth of the total hours required for graduation).

In the case of a student who changes his or her enrollment status from fall to spring semester, the hours which must be completed will be averaged.

Standard two involves a qualitative measurement that determines that the graduate student needs to be making satisfactory progress. Any student receiving grades of C on any three courses or on 12 semester hours (whichever comes first) or any grade of F is not considered to be making satisfactory progress and is not eligible for continued financial aid.

The standards for progress outlined for financial aid recipients are not applicable for purposes of continued enrollment, since such determinations will be made by the university in accordance with institutional policy. Aid students who fail to meet the above standards will

be dropped from financial aid after the spring semester and will not be reinstated until the standards are met. Students terminated from aid because of failure to meet satisfactory progress standards may reapply when mitigating circumstances exist by using the appeal process outlined in the Financial Aid Booklet. All such appeals relating to satisfactory progress must be made within 30 days following the completion of the spring semester.

Time Limitation Policy.

In determining eligibility for financial aid, the graduate student is allowed up to one additional year beyond the determined full-time tract to complete the graduate degree program.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the university. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved. For further assistance, contact the veterans coordinator in the Student Financial Aid Office.

ACADEMIC REGULATIONS AND PROCEDURES

ACADEMIC REGULATIONS AND PROCEDURES

REGISTRATION

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in graduate programs are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

CANCELLATION OF COURSE REGISTRATION

A department chairperson, upon recommendation of the instructor, may cancel a student's registration in any course offered in the department if the registered student fails to attend the **first** class meeting and fails to notify the department office of a desire to remain enrolled within 24 hours of the class time. This cancellation action will only take place when a course is fully enrolled and additional students are waiting to enroll.

The appropriate dean's office should notify the relevant department chairperson of late-arrival students who cannot attend the first class meeting because of illness or other reasons approved by a dean of the college, the professional schools or the dean of students.

If cancellation action is taken by a department chairperson, the registration openings resulting from this action will be offered to students seeking enrollment in the courses during the official drop/add period. Students who have been authorized to add a course should follow the normal drop/add procedures printed in the semester schedule.

Student appeals resulting from emergencies or other extenuating circumstances will be considered on a case-by-case basis in the appropriate dean's office.

PREREGISTRATION

Preregistration for students currently enrolled is held each semester. Students who complete preregistration and who pay fees by the designated date are registered except in the event that they are declared academically ineligible at the end of the preceding semester. Graduate students receive notification from their advisors, through their campus post office box, regarding an appointment time to discuss their schedule. They will be given a permit to preregister at the time of their appointments.

FULL-TIME STATUS

Graduate-Regular Term

Full-time status requires a minimum enrollment of nine credit hours. However, a student may also be considered full-time when enrolled for less than nine hours if the student holds a teaching or research assistantship, or is enrolled for zero to three hours of thesis work. Half-time status begins with at least three credit hours. A student may not be considered enrolled beyond two terms of zero thesis hours. Summer counts as one regular term.

Graduate-Summer Term

Full-time status requires a minimum enrollment of four credit hours. However, a student may also be considered full-time when enrolled for less than four hours if the student holds a teaching or research assistantship, or is enrolled for zero to three hours of thesis work. Half-time enrollment status begins with three credit hours. Zero to three hours of thesis work

may also qualify the student as half-time if approved in writing by the graduate dean. A student may not be considered enrolled beyond two terms of zero thesis hours. Summer counts as one regular term.

COURSE CREDIT

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to the Graduate School, except as described in the paragraphs below.

Final Semester Seniors

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or school dean, as appropriate, and (2) present it to the Graduate School for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Non-degree Credit

Graduate courses taken at this institution as a non-degree student before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit. A maximum of 10 hours may be applied toward the degree.

Extension Courses

Degree-related extension courses offered by this institution may be applied toward a graduate degree as follows: (a) with the approval of the appropriate dean, a non-degree student may apply for a maximum of six hours of relevant courses as transfer credits at the time of admission to a program, (b) with the prior approval of the appropriate dean, a student who is already admitted to a degree program may apply up to six hours of relevant courses toward the residence requirement. Requests for application of an additional six hours toward the residence requirement may be submitted to the Graduate School.

Transfer Of Course Credit

A maximum of six semester hours of graduate credit may be transferred from another accredited institution in partial fulfillment of the total hours required for the master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition the Graduate School for transfer of more than six semester hours. Each such petition must be accompanied by a statement of endorsement from the appropriate dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the Graduate School only upon recommendation of the dean of the school or college in which the student is enrolled. The Graduate School must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree.

A graduate student who wishes to take one or more courses elsewhere for graduate degree credit must obtain prior approval from the appropriate dean and the Graduate School.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate program, do not carry graduate course credit, and do not compute in the graduate gpa.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing, but all such courses are recorded as part of the official record.

ADDING, DROPPING

Courses may be added or dropped only in the official drop/add period, which is noted in the Calendar of Events. To add or drop a course, the student must present to the Graduate School a drop/add card signed by his or her graduate coordinator/advisor and the course instructor for approval.

A student may not use a Schedule Revision Card to drop his or her only course, but must officially withdraw from the university.

WITHDRAWAL POLICY FOR GRADUATE STUDENTS

A student is allowed to withdraw from the university or from individual courses through the first week of the semester without having a grade entered on the academic record. Inclusive of the second through week twelve of the semester, any student who withdraws will receive a grade of W.

A grade of W will not affect the student's grade point average. Beginning with the thirteenth week of the semester, a grade of F will be assigned for each course withdrawal.

To withdraw from an individual class or classes, the student must report to the Graduate School before or on the last day for withdrawal as indicated in the university calendar of events. To withdraw from all classes, the student must process an official withdrawal form through the Graduate School. If the student is unable to appear in person to withdraw, written notice must be sent to the Graduate School.

Should extenuating circumstances warrant, the grade of F assigned for course withdrawal may be changed to a W. This determination will be made by the Graduate School. It is the student's responsibility to initiate the appeal. The decision of the dean is final and must be rendered prior to the end of the semester in which the withdrawal occurred.

GRADUATE GRADING

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

A (4 qp) - excellent
B (3 qp) - completely satisfactory
C (2 qp) - minimally acceptable
F (0 qp) - failure
S - satisfactory progress (thesis)
I - work incomplete
W - withdraw passing

GRADES OF INCOMPLETE

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The

instructor may set the maximum allowable period for completion of the course work, but in no case will the extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the Graduate School. If, within 12 months, a change of grade has not been submitted by the instructor, the incomplete automatically becomes a F.

RETENTION POLICY

Three grades of C or one grade of F results in dismissal from the graduate program. Further, if a student falls below a 3.0 gpa at any time, he or she goes on academic probation and has three subsequent courses to bring the gpa up to at least 3.0. In addition, a student must have at least 3.0 gpa in order to begin any program-specific comprehensive examination and/or thesis work.

MINIMUM COMPETENCY REQUIREMENT

Individual graduate programs may designate certain courses as requiring minimum competence of B. Any student receiving a C in such a course must repeat it and receive a grade of B or better. Such courses may be repeated only once, and failure to receive a B or better grade in the repetition will result in dismissal from the graduate program. Both the initial C and subsequent grade will count in determining the gpa, but only the initial hours will count toward degree requirements.

POLICY ON REPEATING COURSES

A student who has received a grade of C may repeat that course once. Both the first and second grade will count in determining the gpa, but only the initial hours will count toward degree requirements. Students may not repeat a course in which they received a grade of A or B.

RETENTION BY APPEAL

Students who have been dismissed from the graduate program and readmitted by special action of the Graduate School shall have their subsequent retention policy determined individually by the dean.

AUDITING POLICY FOR GRADUATE STUDENTS

Auditing is considered the privilege to attend a class if space is available. The decision to allow auditing within the professional schools and graduate degree programs is the prerogative of the deans and the department chairs. Within those programs granting the auditing privilege, students must have the approval of the instructor and the appropriate department chair or dean prior to registering or adding the course(s) to their schedule. The student should consult the registrar for auditing registration dates. The audit will be considered part of the student course load. Tuition, fees, and enrollment procedures are the same as for credit enrollment.

Attendance, preparation, and participation in classroom discussions and activities are at the discretion of the instructor and the department. No credit is given, no examinations are required, and no grades are reported for audited courses. A formal record of the audit may be entered on the student's transcript at the discretion of the instructor. The procedure for dropping an audit course is the same as for credit enrollments. A course audit may not be changed to graduate credit.

GRADUATION

A student must have no less than a 3.0 gpa on all graduate-level courses. Grades of A,B,C,F,S, and W are permanent grades and can be changed only by the instructor with the approval of the appropriate dean in cases of arithmetical or clerical error or as a result of protest of grade.

PROCEDURE FOR PROTEST OF GRADE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeals must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the dean of the college or school within which the protested grade was awarded. By conferring with the student and the instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will transmit the written appeal to the Graduate School. The dean of the Graduate School will convene the Grade Appeals Committee.The Grade Appeals Committee will consist of the graduate dean as chairman and five members of the graduate faculty appointed by the graduate dean. If the committee affirms the instructor's decision, the graduate dean will notify in writing the faculty member, the student, and the appropriate dean. If the committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be appealed further.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examination at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of this desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period.

Rescheduling of a final examination for an entire class requires the approval of the appropriate dean.

TRANSCRIPTS

Transcripts are issued by the Office of the Registrar to students at the cost of $2.00 each. All requests for transcripts must be in writing and must include the student's signature.

INDEBTEDNESS

All indebtedness to the university must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar in writing of any change in name or permanent mailing address. Tuition bills and final grades are mailed to the permanent address; therefore, documentation supporting the change must be presented when the request is made.

SAFETY AND HEALTH PROGRAM

UNCW's safety program complies with the State Occupational Safety and Health Act of 1973.

MASTER'S DEGREE EXAMINATION

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or school. Neither examination may be taken until the course work is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the dean of the school or college in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination.

A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor.

A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the dean of the Graduate School. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

REGISTRATION FOR THESIS

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only courses for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of university faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of university faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded.

FOREIGN LANGUAGE REQUIREMENT

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in

a given program must be one of the options approved for that program by the Graduate School.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such a requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her dean will be asked to certify on the application of candidacy that such a requirement has been met.

APPLICATION FOR ADMISSION TO CANDIDACY AND FOR THE DEGREE

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree, but fails to meet a deadline for a particular graduation, he or she must contact the Graduate School to specify a new graduation date.

DEGREE TIME LIMITS

A graduate student has five calendar years to complete his or her degree program. The five-year period begins with the student's first term of work after formal admission to a degree-granting program. Work completed as a non-degree student does not initiate the five-year period for completing a degree program.

Courses taken more than five calendar years prior to the admission of a student into a degree program at UNCW normally are not accepted for credit toward fulfilling the requirements of the student's degree program. In some cases, however, with approval of the student's advisory committee and department/unit chair, a student may petition the Graduate School to accept for credit work that is more than five years old.

When extenuating circumstances warrant, an extension of the time limit for completing a graduate program may be granted to a student upon his or her petition to the Graduate School. Such petitions must include an explanation and the endorsement of the student's advisory committee and academic unit's chair or dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of each individual.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. Complete details may be found in the current *Student Handbook and Code of Student Life and in the Faculty Handbook.*

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. All faculty members are responsible for setting policy concerning the role of attendance in determining grades for their classes. It is the responsibility of the students to learn and comply with the policies set for each class in which they are registered.

THE GRADUATE SCHOOL

THE GRADUATE SCHOOL

The Graduate School at the University of North Carolina at Wilmington administers programs of study leading to the Master of Business Administration degree, the Master of Education degree, the Master of Arts in Teaching degree, the Master of Science degree in biology, chemistry, geology, mathematics, and marine biology, and the Master of Arts degree in English, history, mathematics and psychology.

Each of these programs provides capable students with an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development. Fuller descriptions of these programs appear separately in the following pages.

ADMISSIONS

GENERAL ADMISSIONS REQUIREMENTS

For admission to a graduate degree program at the University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. For information on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test (MAT) contact the University Student Development Center. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking, or have taken, graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNCW.

Applications for admission to most graduate degree programs should be filed in the Graduate School at least sixty (60) days in advance of the term in which admission is sought; some programs require earlier deadlines. If admitted applicants do not register for the term specified in this application, their admission will be subject to review at a later date. A student who leaves the university and who does not register for at least one semester must apply for readmission to the Graduate School.

Each student admitted to a graduate degree program must have a completed medical report form on file at UNCW before initial registration may be effective. In addition, an immunization record for each newly admitted UNCW graduate student, regardless of status, is required by law to be on file at UNCW prior to enrollment.

Graduate students are subject to the same university policies and regulations as undergraduates unless otherwise stated. Specific admission requirements are listed under each master's degree program.

NON-DEGREE STUDENTS (Special Graduate Status)

In some cases, students who are not seeking a graduate degree maybe permitted to take graduate courses. Such permission to take graduate courses does not constitute admission to a graduate degree program. Non-degree graduate students are not candidates for degrees. Enrollment must be maintained in at least one graduate course each semester. The undergraduate grade-point averages for non-degree graduate students are expected to meet the same standards that apply to the admission of graduate students in full standing. Students that are later accepted to a degree program may, with approval, have up to 10 hours

applied toward the degree. Normally, non-degree status is not available and does not apply to students interested in taking courses in the Cameron School of Business Administration. Admission requirements may vary for each academic unit, and students seeking non-degree status therefore must determine and meet these conditions prior to completing their application. Any individual having an interest in applying for admission as a non-degree graduate student should contact the Graduate School.

RE-ENROLLING

A student who leaves the university and who does not register for at least one semester (fall or spring, not applicable for summer) must apply for readmission to the Graduate School. The re-enrollment forms are available in the Graduate School. No fee is required.

INTERNATIONAL STUDENTS (see Special Academic Programs section)

COOPERATIVE PH.D. PROGRAM IN MARINE SCIENCE (see Special Academic Programs section)

ADMISSIONS-SENIOR CITIZENS

Residents of North Carolina age 65 or older who meet applicable admission requirements may enroll tuition free on a space available basis. Students who wish to enroll under the provisions of this law should document their senior citizen status at the time of registration. The availability of class space cannot be determined until after registration.

NONDISCRIMINATION POLICY

UNCW is dedicated to equality of opportunity within its community. Accordingly, UNCW does not practice nor condone discrimination in any form against students, employees, or applicants on the grounds of race, color, national origin, religion, sex, age, handicap or veteran status. UNCW commits itself to positive action to secure equal opportunity regardless of those characteristics. For additional information, contact the compliance officer.

Any student who supplies false or misleading information or who conceals pertinent facts in order to enroll in the University of North Carolina at Wilmington is subject to immediate dismissal from the university.

Application forms and other admissions information may be obtained by contacting the Graduate School, University of North Carolina at Wilmington, 601 South College Road, Wilmington, North Carolina 28403-3297, (910) 395-3135 phone, (910) 395-3787 fax.

DEPARTMENT AND PREREQUISITE ABBREVIATIONS

The following standard list of abbreviations are used for stating department and prerequisite abbreviations.

Accountancy	ACG
Anthropology	ANT
Biology	BIO
Biology Lab	BIOL
Business Law	BLA
Chemistry	CHM
Chemistry Lab	CHML
Computer Science	CSC
Economics	ECN
Education	EDN
English	ENG
Finance	FIN
Geology	GLY
History	HST
Management	MGT
Marketing	MKT
Mathematics	MAT
Statistics	STT
Production and Decision Sciences	PDS
Psychology	PSY

THE COLLEGE OF ARTS AND SCIENCES

Graduate programs in the College of Arts and Sciences lead to either a Master of Arts or a Master of Science degree. In addition, specialized curricula leading to the Master of Arts in Teaching degree are offered jointly by the College of Arts and Sciences and the School of Education for professional educators. All programs in the college are designed to enhance the intellectual competence, maturity, and independence of the master's student, thereby preparing students for careers in business, industry, government, teaching, or for further study at the doctoral level.

MASTER OF SCIENCE IN BIOLOGY AND MARINE BIOLOGY

The Department of Biological Sciences offers programs of study leading to a Master of Science degree in biology and a Master of Science degree in marine biology. The programs are designed (1) to prepare students for further graduate work leading to the Ph.D.; (2) to provide professional biologists with advanced research and education opportunities; (3) to prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; or (4) to provide a broad-based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in biology or marine biology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and subject test in biology)
4. Three recommendations by individuals in professionally relevant fields

Scores on the verbal, quantitative, and subject test in biology portions of the Graduate Record Examination (GRE) in the 50th percentile or above are desired. A bachelors degree in a field of biology from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, as well as an average of "B" or better in the undergraduate major. Undergraduate grades, GRE scores, and recommendations are used in concert to determine acceptability.

Degree Requirements

1. The program requires 30 semester hours of graduate study.

2. Six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better.

3. A minimum of 24 semester hours of graduate study must be completed in residence.

4. No more than nine hours of graduate level courses offered by other science departments at UNCW may be applied toward the degree.

5. No more than 10 credit hours from those courses crosslisted as 400/500 may be applied toward the degree. Undergraduate courses taken to make up deficiencies will not count toward the 30 hours required.

6. All deficiencies must be remedied prior to graduation.

7. The student must successfully complete a written comprehensive examination based on prior coursework and an oral defense of the thesis. The comprehensive examination normally will be taken during the student's final semester in residence.

8. Each student will present a thesis, based on original research, acceptable to thesis advisory committee, prior to graduation.

9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study.

Requirements for Master of Science Degrees

Core courses: required of all students seeking a Master of Science degree in biology or marine biology.

BIO 501 Methods in Scientific Research (2)
BIO 599 Thesis (3-6)

Master of Science in Biology

In addition to the core courses listed above, each student, in consultation with his/her thesis advisory committee, shall devise a program of study that meets the requirements below, complements the thesis research, and satisfies individual needs and interests.

Select two of the following:

a) BIO 519 Advanced Topics in Cellular and Molecular Biology (4)
b) BIO 534 Advanced Ecology (4)
c) BIO 549 Advanced Topics in Animal Physiology (4)

A minimum of 14 hours of elective credit; at least seven hours of which must come from the following lists of electives. Graduate courses: BIO 515, 519*, 526, 531, 534*, 538, 539, 549*, 550, 551, 577, 579, 591, 594 (*If not taken as a required course above). Courses crosslisted for undergraduate and graduate students (ten hour limit): BIO 512, 512L, 520, 524, 529, 535, 536, 540, 541, 544, 554, 556, 557, 567, 574, 576, 580, 585.

Master of Science in Marine Biology

In addition to the core courses listed above, students shall complete the following courses and, in consultation with their thesis advisory committees, select electives to complete a program of study that meets individual needs and interests.

Select two of the following:

a) BIO 534 Advanced Ecology (4) or BIO 549 Advanced Topics in Animal Physiology (4) or BIO 519 Advanced Topics in Cell and Molecular Biology (4)
b) BIO 560 Estuarine Biology (4)
c) BIO 569 Advanced Oceanography (4)

A minimum of 14 hours of elective credit; at least seven hours of which must come from the following lists of electives. Graduate courses: BIO 525, 534*, 553, 558, 560*, 561, 562, 563, 564, 566, 569*, 575, 579, 591, 594 (*If not taken as a required course above). Courses crosslisted for undergraduate and graduate students (ten hour limit): BIO 529, 537, 545, 552, 559, 565, 570, 571, 572, 580, 585.

GRADUATE PROGRAM IN BIOLOGICAL SCIENCES

Course Descriptions

BIO 501. Methods in Scientific Research (2) Scientific manuscript preparation and communication techniques: manuscript format, graphics, design of experiments, library use, oral presentation, and writing techniques. Two lecture and two laboratory hours each week.

BIO 512. (410) Electron Microscopy and Cell Ultrastructure (3) Prerequisite: Course in cell physiology or permission of instructor. A discussion of the general and specialized techniques of transmission and scanning electron microscopy and their application to the elucidation of the structure and function of cell organelles in plants and animals.

BIOL 512. (BIOL 410) Electron Microscopy Laboratory (1) Corequisite: BIO 512 and permission of instructor. Techniques for fixing, embedding and thin sectioning of tissue are demonstrated. Students prepare a material of choice for observation and analysis and examine the prepared material with the electron microscope. Three laboratory hours each week.

BIO 515. Membrane Physiology (4) Prerequisite: Course in animal or cellular physiology or permission of instructor. Introduction to the principles of diffusion, osmosis, active transport, and membrane biophysics, with emphasis on cellular and whole animal ionic and osmotic regulation in marine invertebrates and vertebrates. The laboratory gives experience in ion measurements, handling radioisotopes, and flux studies. Three lecture and three laboratory hours each week.

BIO 519. Advanced Topics In Cellular and Molecular Biology (4) Prerequisite: Upper-level undergraduate or graduate course work in cellular and molecular biology or permission of the instructor. Selected topics in cellular and molecular biology. Includes: the cytoskeleton and its components, dynamics of membrane structure and function, metabolism of nitrogenous compounds, control of gene expression, and biology of extrachromosomal DNA. Three lecture and three laboratory hours each week.

BIO 520. (415) Vertebrate Histology (4) Prerequisite: Courses in introductory cell biology and general zoology. An introduction to the cytology and morphology of vertebrate cells and tissues, including examination of the four major histological tissues: epithelium, connective tissue, muscle, and nerve. Other topics include the techniques and instrumentation of light microscopy and selected methods of sectioning, fixation, and staining of tissues. Student project required. Three lecture and three laboratory hours each week.

BIO 524. (425) Microblology (4) Prerequisite: Permission of instructor. Study of non-pathogenic and pathogenic microorganisms with emphasis on the biology of viruses and bacteria. Laboratory sessions include the techniques required to identify, culture, and stain selected microorganisms. Three lecture and three laboratory hours each week.

BIO 525. Marine Microbiology (4) Prerequisite: Course in microbiology or permission of instructor. Study of structure and function of microbes and their nutrition, metabolism adaptation and genetics, as related to the marine environment. The laboratory includes techniques of studying microbes and their ecology, and the systematics of important microorganisms. Three lecture and three laboratory hours each week.

BIO 526. Advanced Topics in Microbiology (2-4) Prerequisite: Course in microbiology and organic chemistry or permission of instructor. Study of the taxonomy, morphology, metabolism, genetics and ecology of microorganisms. Emphasis is placed on the current microbiological literature. Lecture and laboratory hours each week.

BIO 529. (430) (ANT 430) Evolutionary Biology (3) Prerequisite: Course in genetics. Advanced survey of organizational principles of the genetic apparatus of prokaryotes and eukaryotes. Emphasis is on critical evaluation of current concepts and models of evolutionary dynamics using relevant illustrative examples from the literature.

BIO 531. Population Genetics (3) Prerequisite: Course in genetics. Basic principles of the dynamics of genes within populations. Topics include fitness, polymorphism, genetic equilibrium, and the effects of non-random mating and selection.

BIO 534. Advanced Ecology (4) Prerequisite: Course in general ecology. Advanced topics in population dynamics, community ecology, and ecosystem energetics. Emphasizes current issues in these fields and research methodology to address ecological questions. Three lecture and three laboratory hours each week.

BIO 535. (435) Molecular Genetics (3) Prerequisite: A course in genetics, biochemistry, or cell physiology. An overview of current understanding of the nature, function, and control of genes. Topics include the nature of genetic information; the sequence organization and packaging of the eucaryotic genome; DNA, RNA, and protein systhesis; recombinant DNA technology; RNA processing; transposable genetic elements; and antibody diversity synthesis and function.

BIO 536. (436) Recombinant DNA Techniques (4) Prerequisite: Course in genetics, physiology, or biochemistry. Basic principles and techniques of gene cloning using all three major types of cloning vectors: lambda phage, plasmids, and the single stranded DNA phage M13. Provides hands-on experience in recombinant DNA methodology. Three lecture and three laboratory hours each week.

BIO 537. (457) Ichthyology (4) Prerequisite: Course in general zoology. The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

BIO 538. Cytogenetic Methodology (2) Prerequisite: Course in genetics. Laboratory course introducing techniques for studying and analyzing the chromosomes of a variety of organisms including plants and animals. Four laboratory hours each week.

BIO 539. Advanced Topics in Population Biology (2-4) Prerequisite: Courses in genetics and ecology or permission of instructor. Study of the ecology, genetics, and evolution of populations. Topics include dynamics of population structure, growth, and regulation; natural selection and the maintenance of genetic variation within populations; differentiation of populations and speciation; evolution of population strategies. Lecture hours each week

BIOL 540. (465) Biochemistry Laboratory (1) Corequisite: BIO 540 Experiments demonstrating basic phenomena and techniques of biochemistry. Three laboratory hours each week.

BIO 541. (420) Pathophysiology (3) Prerequisite: Permission of the instructor. Survey of the physiologic and biologic manifestations of disease, emphasizing how alterations in structure and/or function disrupt the human body as a whole. Overall mechanisms of disease are introduced and described to allow coverage of specific diseases within each system.

BIO 544. (440) Developmental Biology (4) Prerequisite: Course in genetics. Concepts of mechanism and control during embryo development and morphogenesis. Topics included differential gene activity, hormones and other growth substances, and cell surface phenomena. Current primary research literature is stressed. Three lecture and three laboratory hours each week.

BIO 545. (445) Marine Physiology (4) Prerequisite: Course in cellular or animal physiology. Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion, and movement. Three lecture and three laboratory hours each week.

BIO 549. Advanced Topics in Animal Physiology (4) Prerequisite: Permission of instructor. Study of topics in animal physiology for which significant new understanding has been obtained. Consideration is given to those emergent techniques that have permitted the application of scientific methodology to particular physiological problems. Three lecture and three laboratory hours each week.

BIO 550. Vertebrate Systematics (4) Prerequisites: Courses in two of the following: ichthyology, herpetology, ornithology, mammalogy. A study of the processes of speciation in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures are discussed. Three lecture and three laboratory hours each week.

BIO 551. Advanced Vertebrate Biology (2) Prerequisite: Permission of instructor. Individualized instruction in the identification, classification, and ecology of the terrestrial vertebrates of the coastal zone with emphasis on field methodologies. Designed to fill

gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

BIO 552. (462) Deep Sea Biology (3) Prerequisite: Course in invertebrate zoology or equivalent. A study of the deep-sea biosphere, with emphasis on the biology of abyssal zones off the North Carolina coast and hydrothermal vent ecosystems. Topics include unique benthic and pelagic animals in deep-sea environments and their physiological adaptations to hydrostatic pressure and low temperature, nutritional dynamics, reproductive strategies, energy flow, and speciation in abyssal and ultrabyssal zones.

BIO 553. Natural History of Intertidal Organisms (3) Prerequisite: Course in invertebrate zoology or permission of instructor. Study of characteristics of invertebrates inhabiting the intertidal zone. Topics include physical and biological features defining zonation, recruitment, competition, and other factors regulating intertidal populations. Two lecture hours and field work each week.

BIO 554. (452) Mammalogy (4) Prerequisite: Course in general zoology. A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions include collection, identification, and preparation of specimens and observations of mammals in the field. Three lectures and three laboratory hours each week.

BIO 556. (456) Ornithology (4) Prerequisite: Course in general zoology. An introduction to the life of birds. Emphasis is on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

BIO 557. (454) Herpetology (4) Prerequisite: Course in general zoology. A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Three lecture and three laboratory hours each week.

BIO 558. Biology of Recreational and Commercial Fishes (3) Prerequisite: Course in ichthyology or permission of the instructor. A study of the major groups of fishes and invertebrates utilized in fisheries, with emphasis on the biology, economic importance, and management of selected groups. Topics focus on contemporary management strategies and needs. Two lecture and three laboratory periods each week.

BIO 559. (481) Marine Invertebrate Zoology (4) Prerequisite: Course in general zoology. A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

BIO 560. Estuarine Biology (4) Prerequisite: Course in general ecology or permission of instructor. An examination of the unique physical, chemical, and biological interactions within estuaries, emphasizing nutrient cycles and energy flows. Three lecture and three laboratory hours each week.

BIO 561. Barrier Island Ecology (3) Prerequisite: Course in general ecology or permission of instructor. Survey of vegetation and physiography of barrier islands. Two lecture and three laboratory hours each week.

BIO 562. Coastal Ecosystems (3) Prerequisite: Course in general ecology or permission of instructor. Ecology and current regulations and management of coastal plain communities. Two lecture and four laboratory hours each week.

BIO 563. Physical Oceanography (4) Prerequisite: Permission of instructor. Dynamics and physics of the ocean with emphasis on the physical properties of sea water, flow dynamics, and circulation. The laboratory emphasizes instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

BIO 564. Biological Oceanography (3) Prerequisite: Permission of instructor. Discussion of factors that control the distribution of marine organisms. Topics include characteristics of marine biomes; comparisons of tropical, temperate, and polar seas; biology of the continental shelf and Gulf Stream; comparisons of pelagic and benthic communities; and physiological adaptations.

BIO 565. (458) Fisheries Biology (4) Prerequisite: Courses in ichthyology, and statistics, and permission of instructor. Advanced studies in the biology of fishes. Topics include age, growth, foods, parasites, population dynamics, reproduction, and economic pressure. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

BIO 566. Behavioral Ecology of Reef Fishes (3) Prerequisite: Course in ichthyology or permission of instructor. An ecological and ethological approach to the study of reef fishes, including theories and problems dealing with ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

BIO 567. (460) Limnology (4) Prerequisite: Course in inorganic chemistry or permission of instructor. An examination of the physical, chemical, and biological characteristics of freshwater systems, particularly lakes, with an emphasis on the interrelationship of these characteristics. Three lecture and three laboratory hours each week.

BIO 569. Advanced Oceanography (4) Prerequisite: Course in descriptive oceanography. Considers mechanisms and dynamics of the ocean; the physical processes propelling oceanic currents, the reception and transmission of energy, and its influence upon living systems, statics and dynamics of waves, chemical distribution in the sea and their influence upon living marine organisms, dynamics of fertility, and productivity in the marine environment. Three lecture and three laboratory hours each week.

BIO 570. (468) Planktonology (4) Prerequisite: Course in invertebrate zoology or consent of instructor. Classification, physiology, and ecology of phytoplankton and zooplankton. Discussion of current topics in plankton biology. Two lecture and four laboratory hours each week.

BIO 571. (446) Phycology (4) Prerequisite: Course in general botany. A survey of algal groups including benthic planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

BIO 572. (472) Marine Phycology (4) Prerequisite: Course in general botany. An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

BIO 574. (475) Plant Taxonomy (4) Prerequisite: Course in general botany. An introduction to identification, classification, and nomenclature of vascular plants with emphasis on the flora of southeastern North Carolina. Two lecture and four laboratory hours each week.

BIO 575. Taxonomy of Aquatic and Wetland Plants (3) Prerequisite: Course in plant taxonomy or permission of instructor. Discussion, collection, and identification of vascular plants found in the aquatic and wetland habitats of coastal North Carolina. Extensive field work and individualized instruction in collection and identification techniques. Two lecture and three laboratory hours each week.

BIO 576. (474) Comparative Morphology of Vascular Plants (4) Prerequisite: Course in general botany. An in-depth study of the major groups of vascular plants with emphasis on structure, life histories, development, and phylogeny. Three lecture and three laboratory hours each week.

BIO 577. Experimental Mycology (3) Prerequisite: Graduate status. An accelerated introduction to general mycology with emphasis on the role of fungi as friend and foe in various ecosystems. The use of fungi as experimental tools as well as modern technology useful to their study are considered. Two lecture and three laboratory hours each week.

BIO 579. Advanced Topics in Organismic Biology (2-4) Prerequisite: Permission of instructor. Advanced study of the ecology, natural history, behavior, or systematics of selected groups of organisms. Lecture and laboratory hours each week.

BIO 580. (480) Field Studies in Biology (1-6) A research experience-oriented field course offered in selected regional locales. Emphasis is placed on distribution, taxonomy, and ecology of animal and/or plant organisms.

BIO 585. (485) Special Topics in Advanced Biology (1-6) Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

BIO 591. Directed Independent Study (1-3)

BIO 594. Practicum in College Biology Teaching (2) An introduction to theory, research, and practice in college biology teaching. Combines supervised internship in introductory biology with formal classroom instruction. For graduate students who have been awarded teaching assistantships in the Department of Biological Sciences and others with permission of instructor.

BIO 596. Critique of Scientific Literature (1) Review and critique of grant proposals, manuscripts, and published papers pertaining to biological research.

BIO 599. Thesis (1-6)

MASTER OF SCIENCE IN CHEMISTRY

The Department of Chemistry offers a program of study leading to the Master of Science degree in chemistry. The objectives of this program are to give students who have an undergraduate foundation in chemistry the opportunity to engage in advanced course work, in-depth study, and independent research, in order to acquire the skills of assimilating known information and generating new knowledge. These problem-solving skills will provide the foundation for future contributions by the graduates in various areas of chemistry, whether they seek employment directly or choose to undertake further graduate study elsewhere.

Admission Requirements

Applicants seeking admission to the graduate program in chemistry are required to submit the following to the Graduate School:

1. An official application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative)
4. Three recommendations by individuals in professionally relevant fields

An acceptable score on the Graduate Record Examination is expected. A bachelor's degree with a concentration in chemistry from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program is required for admission, along with a "B" average or better in chemistry courses. Admission decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. Programs leading to the Master of Science degree require a minimum of 30 semester hours of graduate study. Up to eight credit hours of graduate courses in other natural and mathematical sciences may be approved by the student's advisory committee. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.

2. Deficiencies in a student's undergraduate preparation will be ascertained by a committee of faculty members in the Department of Chemistry. Placement tests in the basic areas of chemistry may be administered to incoming students at the discretion of the faculty committee to assist with evaluation of deficiencies. Any deficiencies must be remedied prior to graduation.

3. The student must successfully complete a written and an oral comprehensive exam.

4. The student must demonstrate computer proficiency.

5. A thesis reporting the results of the student's original research project must be submitted by the student and approved by the student's advisory committee. An oral defense of the thesis is required. Each student will present a seminar on his or her research project.

6. The program shall be completed within five years of the date of first registration for graduate study.

Required Courses

CHM 501 Introduction to Chemical Research (2)
CHM 595 Graduate Seminar (1)
CHM 599 Thesis (6)
And at least two of the following courses:
CHM 516 Advanced Chemical Synthesis (3)
CHM 536 Spectroscopy (3)
CHM 521 Thermodynamics (3) or CHM 522 Rates and Mechanisms (3)

GRADUATE PROGRAM IN CHEMISTRY

Course Descriptions

CHM 501. Introduction to Chemical Research (2) Scientific proposal and manuscript preparation. Communication techniques. Experimental design and data analysis. Computer applications. Library use. Laboratory safety. Two hours each week.

CHM 515. (415) Advanced Organic Chemistry (3) Prerequisite: Two semesters of organic chemistry. Theoretical and physical organic chemistry, including chemical bonding, stereochemistry, and conformational analysis with applications to selected reaction mechanisms.

CHM 516. Advanced Chemical Synthesis (3) Prerequisite: Inorganic chemistry and two semesters of organic chemistry, or permission of instructor. Modern organic and inorganic synthesis with emphasis on carbanion and free radical intermediates. Synthesis and use of organometallic compounds. Chemical oxidations and reductions. Formation of ring systems.

CHM 517. (417) Medicinal Chemistry (3) Prerequisite: Two semesters of organic chemistry. Systematic study of the chemistry and biological activity of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents.

CHM 521. Chemical Thermodynamics (3) Prerequisite: Physical chemistry, including chemical thermodynamics. Basic concepts and principles of chemical thermodynamics as derived from the Laws of Thermodynamics. Applications of thermodynamic principles to chemical and phase equilibria, solutions of electrolytes, and electrochemistry.

CHM 522. Rates and Mechanisms (3) Prerequisite: Physical chemistry. Chemical kinetics and reaction mechanisms. Transition state and collision theories. Catalysis.

CHM 535. (435) Advanced Analytical Chemistry (2) Prerequisites: Physical chemistry and quantitative analysis or analytical chemistry. Theory of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (CHML 535).

CHML 535. (CHML 435) Advanced Analytical Chemistry Laboratory (2) Prerequisite or corequisite: CHM 535. Applications of modern analytical instrumentation and techniques. Four laboratory hours each week.

CHM 536. Spectroscopy (3) Prerequisite: Organic chemistry. Fundamentals of interaction of electromagnetic radiation with matter. Principles and applications of vibrational, electronic, multinuclear magnetic resonance, electron spin resonance, Raman, x-ray and gamma ray spectroscopic methods.

CHM 546. (446) Advanced Inorganic Chemistry (3) Prerequisite: A physical chemistry based course in inorganic chemistry. Advanced topics in theoretical inorganic chemistry.

CHM 565. (465) Biochemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Study of the physical structures of carbohydrates, lipids, amino acids, proteins, nucleic acids, vitamins and minerals, and the chemical principles governing their biological activity. Special emphasis will be given to enzyme kinetics, solution properties of macromolecules, and the thermodynamic principles of intermediary metabolism.

CHM 567. (CHM 467) Biochemical Techniques and Instrumentation (2) Prerequisite or corequisite: CHM 565 or consent of the instructor. Theory and practice of advanced biochemical techniques, including buffer and reagent preparation, protein assay, protein purification, electrophoresis, enzyme kinetics, enzyme kenetics, tryptic peptide digestion, membrane vesicle construction, DNA isolation, and molecular modeling. One lecture and three laboratory hours each week.

CHM 575. (475) Chemical Oceanography (3) Prerequisite: General chemistry. An oceanography course is recommended. Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. Estuarine reactions, air-seawater and sediment-seawater reactions, and human impact on the oceans.

CHM 576. (476) Chemical Analysis of Natural Waters (2) Prerequisite: Permission of instructor. Chemical analysis of natural waters, including river water, lake water, ground water, rain water, and seawater. Analytical methods will be evaluated with respect to appropriate applications. Analyses include salinity, chloride, dissolved oxygen and oxygen demand, pH and alkalinity, nutrients, chlorophyll, suspended material, and dissolved metals. One lecture and three laboratory hours each week.

CHM 585. (485) Industrial and Polymer Chemistry (3) Prerequisites: Physical chemistry and two semesters of organic chemistry. Properties, synthesis, and reactions of major industrial chemicals; synthetic plastics, polyesters, polyamides, and rubbers; soaps and detergents; petrochemicals; paints and pigments; dyes; explosives; pulp and paper; pharmaceutical and nuclear industries; mechanism of polymerization, copolymerization; physical and chemical properties of polymers; polymer characterization; advances in polymer technology.

CHM 591. Directed Individual Study (1-3) Chemical research not related to thesis work.

CHM 592. Special Topics (1-3) Study of a topic or technique in chemistry not covered in regular courses. May be repeated for credit.

CHM 595. Graduate Seminar (1) Discussion by students, faculty, and guest lecturers of research ideas and/or research results. May be repeated one time for credit

CHM 599. Thesis (1-6) Laboratory research for thesis and thesis preparation.

MASTER OF ARTS IN ENGLISH

The Department of English offers a program of study leading to the Master of Arts degree in English. Students, in consultation with their advisors, tailor their course schedules to their own career objectives and interests, selecting a variety of courses in literature, language, rhetoric and composition, and creative or professional writing.

This program is designed for those who have a keen interest in any of the following: contemporary approaches to literary texts, literary theory, and composition theory; creative writing; future doctoral study in English. Teachers in secondary schools who wish to obtain graduate level teacher certification should consult the graduate coordinator in the School of Education to determine the current requirements for certification.

Admission Requirements

Applicants seeking admission to the graduate program in English are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (no more than five years old)
4. Three recommendations by individuals in professionally relevant fields, addressing the applicant's demonstrated academic skills and/or potential for successful graduate study.

An acceptable score on the Graduate Record Examination, a satisfactory response to the essay question attached to the application form, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and a strong overall academic record with a "B" average or better in the undergraduate major are the minimum requirements for admission. However, meeting minimal GRE score and grade average requirements does not in itself guarantee admission.

The deadline for receiving applications is June 1 for the fall semester and November 1 for the spring semester. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, including ENG 501, Introduction to Research Methods in English, and ENG 502, Introduction to Literary and Writing Theory. At least 24 semester hours must be completed in residence at UNCW.

2. A maximum of six semester hours may be transferred from another accredited institution or from coursework taken as a non-degree student at UNCW. Grades on transfer work must be equivalent to "B" or better.

3. A written comprehensive examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

4. The student will present and defend a thesis, acceptable to the student's graduate advisory committee, prior to graduation. The thesis defense will be open to the public.

5. Students must complete the program within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN ENGLISH

Course Descriptions

ENG 501. Introduction to Research Methods in English (3) Analysis of the content of English studies, stressing bibliographic tools and the aims and methods of literary and writing research.

ENG 502. Introduction to Literary and Writing Theory (3) Analysis of the philosophical, historical, and social foundations of literary and writing theory. Emphasis on problems of meaning, interpretation, and evaluation. Examination of relevant critical figures and schools in historical context.

ENG 504. (430) The Age of Chaucer (3) A survey of works written in medieval England. Included are The Canterbury Tales, selections from Chaucer's other works, and representative works in such genres as chronicle, biography, epic, romance, dream vision, and drama.

ENG 505. (431) The Age of Elizabeth (3) English literature in the sixteenth and early seventeenth centuries. Works studied include poetry by Spenser and Shakespeare, plays by Marlowe and Jonson, and prose by More and Sidney.

ENG 506. (432) The Age of Milton (3) Emphasis on the works of Milton. Also includes works by Donne, Herbert, and Bacon.

ENG 507. (462) Studies in the Novella (3) Types of the novella or short novel, with emphasis upon its distinctive features and development as a genre.

ENG 508. (463) Studies in Non-Fiction (3) Types of nonfiction prose, including biography, autobiography, memoirs, journals, and various forms of essay. Works from a variety of periods, authors, and traditions.

ENG 509. (490) Special Topics in Literature (3) The study of a selected theme, movement, period, influence, or genre. Content varies from semester to semester. May be repeated for credit under different subtitles.

ENG 510. Folklore (3) Study of the theory and history of folklore, customary modes of behavior, informal systems of communication, and the theory and practice of folklore collecting. Fieldwork project required.

ENG 520. Linguistics (3) Study of diverse aspects of human language, with particular attention to American English. Topics include analysis of principles of sound formation, syntax, and meaning; sociolinguistics and psycholinguistics; language acquisition and development in children.

ENG 522. History of the English Language (3) Study of the development of the English language from Old English to contemporary American dialects. Includes study of cultural, political, and linguistic factors affecting language change.

ENG 523. Modern English Grammar (3) Study of the structure of the English language, using modern methods of analysis.

ENG 524. Semantics and the English Language (3) Study of the effect of language upon thought and behavior. Particular attention is paid to practical applications of semantic theory.

ENG 525. Seminar in Linguistics (3) In-depth study of a topic in linguistics. May be repeated for credit under different subtitles.

ENG 530. Creative Writing (3) Writing instruction in four genres: essay, poetry, fiction, and drama. Comparison of techniques in the genres and analysis of work by students and professional authors.

ENG 542. Poetry Writing (3) Instruction in writing poetry, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 544. Fiction Writing (3) Instruction in writing fiction, with classroom critique of students' work and work by professionals. Includes study of publishing markets.

ENG 550. Workshop in Advanced Writing (3) Intensive work, on an advanced level, in a specific area of writing. Topics may include essay writing, technical writing, magazine writing, writing for publication in professional journals, or journalism. May be repeated for credit under different subtitles.

ENG 552. Theories of Composition (3) Analysis of theories related to the composing process, including the social and psychological nature of writing. Critique of research and a review of critical studies.

ENG 553. Studies in Composition (3) Study of a topic in composition. Topics vary; typical offerings could include history of rhetoric, the work of one or more theorists, or theories of reading and writing. May be repeated for credit under different subtitles.

ENG 560. Topics in British Literature (3) Study of major periods in British literature. Periods may include old and middle English literature, British literature of the Renaissance, Restoration and eighteenth-century British literature, nineteenth-century British literature, twentieth-century British prose, or twentieth-century British poetry. May be repeated for credit under different subtitles.

ENG 561. Topics in American Literature (3) Study of major periods in American literature. Period may include American literature to 1865, American literature from 1865 to 1914, American literature from 1914 to 1945, or American literature since 1945. May be repeated for credit under different subtitles.

ENG 563. Topics in World Literature (3) Study of major traditions in world literature. Topics may include European literature or Third World literature. May be repeated for credit under different subtitles.

ENG 571. Literature for Adolescents (3) A reading course in the literature of selected writers who emphasize distinctive roles, experiences, feelings, and problems of adolescence. Special emphasis given to evaluating the literature studied in terms of its aesthetic appeal and its cultural significance.

ENG 572. Literary Criticism: The Major Statements (3) An historical and analytical survey of influential approaches to the study of literature, from Plato and Aristotle to Matthew Arnold, T.S. Eliot, and Stanley Fish, with attention to practical application.

ENG 580. Special Studies in Literature (3) Intensive examination of a special area of literary study. May be repeated for credit under different subtitles.

ENG 591. Directed Independent Study (3) May be taken only once, and may not be taken concurrently with ENG 599.

ENG 599. Thesis (1-6)

MASTER OF SCIENCE IN GEOLOGY

The Department of Earth Sciences offers a program of study leading to the Master of Science degree in geology. The specific goals of the program are to provide advanced research and educational opportunities in the geological sciences and to prepare geologists for solving contemporary problems in sedimentary geology. Specific objectives of the program are: (1) to develop research competence in sedimentary geology; (2) to develop professional competence in the assessment of potential water, energy and mineral resources; (3) to develop a level of research competence in geology that encourages continued effort toward the doctoral degree; and (4) to provide the scientific community with meaningful research data on marine, coastal, and coastal plains geology.

Admission Requirements

Applicants seeking admission to the graduate program in geology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and advanced geology)
4. Three recommendations by individuals in professionally relevant fields

Students seeking admission to the graduate program in geology must hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program, have a strong overall academic record with a "B" average on the basic courses prerequisite to geology, and satisfactory scores on the Graduate Record Examination. We accept students to our program who hold bachelor's degrees in any of the biological, physical, or mathematical sciences. All students must have completed course work in mineralogy, petrology, invertebrate paleontology, stratigraphy, structural geology, an approved summer field course in geology, and two semesters each of chemistry, physics, and calculus. Upon entrance into the master's program, the department's graduate coordinator ascertains deficiencies and recommends remedies. All deficiencies must be removed before a student is accepted as a candidate for the degree.

Degree Requirements

1. The program requires at least 30 semester hours of graduate credit, with a maximum of six credit hours for the thesis and three credit hours for seminars. A maximum of six semester hours of graduate credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate courses must be completed at UNCW including both course work and thesis. At least 18 semester hours must be completed in geology.

2. Each student must successfully complete a comprehensive oral examination that is administered no earlier than the semester the student is enrolled in final course work.

3. Each student must complete an approved course of study within five years of the date of first registration for graduate study.

4. Each student must present and defend a thesis, based on original research, acceptable to the committee, prior to graduation. The thesis defense is open to the public.

5. Each student may complete a maximum of six credit hours of GLY 591, Directed Independent Study.

GRADUATE PROGRAM IN GEOLOGY

Course Descriptions

GLY 510. Ancient Sedimentary Environments (3) Prerequisite: Petrology, stratigraphy, field camp. Survey of ancient sedimentary environments with an evaluation of the criteria used in their recognition in the rock record. Specific ancient sedimentary sequences are examined and compared to their modern counterparts. Field trips.

GLY 511. Clastic Petrology (3) Prerequisite: Optical mineralogy. Classification and description of sandstones and mudrocks and evaluation of their diagenesis. Application of principles to economic deposits. Laboratory exercises concentrate on microscopic and X-ray techniques of analysis. Two lecture and three laboratory hours per week. Field trips.

GLY 512. Carbonate Petrology (3) Prerequisite: Optical mineralogy. Ancient carbonate rocks and modern carbonate depositional environments. Evaluation of the diagenetic processes of cementation, dolomitization and silicification, and the relationship of carbonate rocks to economic deposits. Two lecture and three laboratory hours per week. Field trips.

GLY 515. Methods of Sedimentology (3) Prerequisite: Petrology. A survey of the parameters of sedimentation. Emphasis on the processes involved in the formation of sedimentary rocks, including their origin, transport, deposition and lithification of rock-forming minerals. Techniques of physical and chemical analyses of sediments are stressed. One lecture and six laboratory hours per week. Field trips.

GLY 531. Micropaleontology (4) Prerequisite: Invertebrate paleontology or consent of instructor. Paleobiology and geological history of microorganisms, emphasizing the classification and systematics of major microfossil groups. Three lecture and three laboratory hours per week. Field trips.

GLY 532. Biogeography (3) Prerequisite: Consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments, description of modern global distribution patterns and their development by physiographic, climatic, and evolutionary events in the past. Three lecture hours per week.

GLY 533. Paleoecology (3) Prerequisite: Invertebrate paleontology or consent of instructor. Principles of ecological faunal analysis as primarily applied to the marine fossil record. Emphasizes the integration of form and function, taphonomy, and community development through time, and sedimentology/stratigraphy as a synthetic approach to paleoenvironmental, paleobiological and evolutionary analyses. Applications to biostratigraphy are considered. Field trips.

GLY 535. Stratigraphic Paleontology (3) Prerequisite: Invertebrate paleontology, stratigraphy. Analysis of the stratigraphic distribution of invertebrates emphasizing the Cretaceous and Cenozoic fossil records, application of biostratigraphic principles and

techniques in the development of high-resolution relative time scales, practical experience in the stratigraphic aspects of paleontology through field, laboratory and literature research. Two lecture and three laboratory hours per week. Field trips.

GLY 540. Regional Geology of North America (3) Prerequisite: Structural geology, stratigraphy. Survey of the rocks, structures, natural resources, and tectonic histories of different regions of North America, such as the Precambrian shield, Appalachians, and Cordillera. Syntheses of theories of orogenesis. Three lecture hours per week.

GLY 542. Structural Evolution of Continental Margins (3) Prerequisite: Structural geology, stratigraphy. Structural characteristics and tectonic frameworks of passive and active continental margins. Comparison of modern settings and ancient analogs in the rock record. Three lecture hours per week.

GLY 550. Marine Geology (4) Prerequisite: Consent of instructor. Topography, sediments, structure and geologic history of the marine and estuarine environment. Three lecture and three laboratory hours per week. Field trips.

GLY 552. Coastal Sedimentary Environments (4) Prerequisite: Consent of instructor. Sedimentary processes and environments of the world's coastal systems. Emphasis on river deltas, estuaries, bays, salt marshes, barrier islands and associated inlets. Ice-bound as well as rocky coastlines also are examined. Three lecture and three laboratory hours per week.

GLY 555. Ocean Basin Sediments (3) Prerequisite: Consent of instructor. Classification and recognition of ocean-basin sediments and their spatial distribution within the sedimentary record. Additional emphasis on the effects of ocean-bottom and near bottom currents in the erosion, transport and deposition of the terrigenous and biogenic components. Techniques of physical and chemical analysis are stressed. Two lecture and three laboratory hours per week.

GLY 560. Advanced Stratigraphy (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Stratigraphic analysis of the geologic history of North America and parts of other continents. Emphasis on interpreting lithologic assemblages and stratigraphic relations in terms of modern tectonic-depositional models. Two lecture and three laboratory hours per week.

GLY 561. Coastal Plains Geology (3) Prerequisite: Invertebrate paleontology, stratigraphy, petrology. Origin and development of Gulf and Atlantic Coastal Plains with emphasis on stratigraphy, structure, geomorphology and tectonic history. Field trips. Three lecture hours per week.

GLY 563. Seismic Stratigraphy (3) Prerequisite: GLY 510 or consent of instructor. Seismic interpretation as a means of examining the stratigraphic framework of basins and continental margins. Relationships between seismic data and depositional systems. Introduction to obtaining and processing reflection data and sound propagation. One lecture and six laboratory hours per week.

GLY 571. Sedimentary Geochemistry (3) Prerequisite: One year each of chemistry, physics, and calculus. Application of geochemistry to the formation and diagenesis of sediments and sedimentary rocks. Examination of mineral precipitation, sediment cementation, metasomatism and chemical erosion.

GLY 580. Economic Mineral Deposits (3) Prerequisite: Mineralogy, petrology and one year of chemistry. Description of metallic and nonmetallic mineral deposits that characterize island arcs, spreading centers, and intracontinental areas. Magmatic, hydrothermal, and sedimentary processes of ore formation. Three lecture hours per week. Field trips.

GLY 590. Topics in Geology (1-4) Prerequisite: Consent of instructor. Advanced special topics in geology through lectures, seminars, laboratory or field experience.

GLY 591. Directed Independent Study (1-3)

GLY 595. Seminar (1) Prerequisite: Consent of instructor. Discussion of selected areas in sedimentary geology. Two hours per week.

GLY 599. Thesis (1-6)

MASTER OF ARTS IN HISTORY

The Department of History offers a program of study leading to the Master of Arts degree in history. Specific goals of the program are: (1) to provide advanced research and educational opportunities in the study of history; (2) to prepare historians by training them in the latest research techniques, providing them with a knowledge of the most current research on historical problems; and (3) to direct students in historical research using historical documents and archives.

Admission Requirements

Applicants are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields.

The minimum requirements for admission to the graduate program in history include: satisfactory scores on the Graduate Record Examination (verbal and quantitative) and advanced placement examination, a bachelor's degree from an accredited college or university or its equivalent in a foreign institution based on a four-year program, and an overall academic record with a "B" average or better in the basic courses prerequisite to the area of proposed graduate study.

Degree Requirements

1. The program requires a minimum of 30 semester hours of graduate study, 24 of which must be in history. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. At least 24 hours of graduate study must be completed in residence.

2. A minimum of 24 semester hours of course work, including the thesis, must be in courses open only to graduate students. Courses open to seniors and graduate students will have additional requirements and different grading for graduate students.

3. Students must complete HST 500, 12 hours in the area of concentration and nine hours of electives. Six hours beyond HST 500 must be in seminars.

4. The student must successfully complete a written comprehensive examination that will be administered no earlier than during the final semester of enrollment in course work.

5. Each student will present a thesis, acceptable to the thesis committee, prior to graduation.

6. The student must pass a competency examination demonstrating satisfactory reading knowledge of a foreign language.

7. The program shall be completed within five years of the date of first registration for graduate study.

GRADUATE PROGRAM IN HISTORY

Course Descriptions

HST 500. Historiography and Methodology (3) Introduction to problems of historical research through examination of major historical works and current techniques of research, evaluation of sources, development of bibliography, and quantitative historical

methods including the role of the computer in historical research. This course is open only to graduate students.

HST 507. (ANT 411) Advanced Field Training in Archaeology (3) Supervisory training for field archaeologists. Students direct specific aspects of archaeological excavation, including research design, data recovery, daily site management, and field analysis. Summers.

HST 508. (ANT 412) Historical Archaeology (3) Substantive investigation of the special excavation and analysis procedures, subject matter, and goals of archaeology as applied to the historic past of North America. Special emphasis placed upon historic archaeological sites in the local region. Lecture, laboratory, and field work.

HST 518. (440) Seminar: U.S. Social History (3) Intensive study of selected topics in U.S. social history. Examples of topics: African-Americans, immigrants, social movements, education, work and leisure, sexuality. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 520. U.S. Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme offered in American history. This course is open only to graduate students. May be repeated one time for credit.

HST 522. U.S. Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of American history. This course is open only to graduate students. May be repeated one time for credit.

HST 524. Conflict and Consensus in American History (3) An application of the historiographic concepts of conflict and consensus in American society to the examination of specific periods or topics in American history. This course is open only to graduate students.

HST 525. (442) Seminar: U.S. Economic History (3) Intensive study of significant themes or events in U.S. economic history from the colonial period to the present. Examples of topics: economy of Colonial America, 19th-century labor movements, economy of the Antebellum South, agricultural history. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 526. (444) Seminar: U.S. Political History (3) Intensive study of selected facets of political theory, behavior, movements, and institutions, and how political power has been used to influence the development of society. Examples of topics: New Deal politics, third-party movements, U.S. Constitution. May be repeated under a different subtitle. Maynot be applied toward fulfillment of graduate seminar requirement.

HST 527. (446) Seminar: U.S. Diplomatic History (3) Intensive examination of fundamental principles, assumptions, and objectives in the conduct of U.S. foreign policy, and of how Americans have viewed their place in the international order at various moments in their history. Examples of topics: the diplomacy of World War II, the Cold

War, arms control and disarmament. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 528. (448) Seminar: U.S. National Security History (3) Intensive examination of major themes and events in the evolution of U.S. national security and defense policy, the uses of national power, and the role of military affairs from the colonial period to the present. Examples of topics: the Vietnam War, the use of air power, U.S. imperialism. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 529. (450) Seminar: U.S. Intellectual History (3) Intensive examination of the role of ideas in American history. Examples of topics: radicalism, the Enlightenment, myth in American history, and ideas about democracy, ethnicity, equality, religion, gender. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 531. (454) Seminar: U.S. Regional History (3) Intensive examination of the economic, social, and political history of a specific region of the United States. May be repeated under a different subtitle. May not be applied toward fulfillment of graduate seminar requirement.

HST 540. European Colloquium (3) Readings and discussion of major research trends and schools of interpretation in selected themes in European history. This course is open only to graduate students. May be repeated one time for credit.

HST 542. European Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of European history. This course is open only to graduate students. May be repeated one time for credit.

HST 544. Studies in European Biography (3) Examination of selected figures in European history and the extent to which they shaped and were shaped by their times. This course is open only to graduate students.

HST 548. (408) Seminar: Medieval Europe (3) Research-oriented exploration of major themes and issues in history of Medieval Europe (500-1500). May not be applied toward fulfillment of graduate seminar requirement.

HST 552. (412) Seminar: Renaissance and Reformation Europe (3) Research-oriented exploration of major themes and issues in the history of Renaissance and Reformation Europe (1350-1618). May not be applied toward fulfillment of graduate seminar requirement.

HST 554. (414) Seminar: Early Modern Europe (3) Research-oriented exploration of major themes and issues in the history of Early Modern Europe (1618-1789). May not be applied toward fulfillment of graduate seminar requirement.

HST 556. (416) Seminar: Nineteenth-Century Europe (3) Research-oriented exploration of major themes and issues in the history of Europe from the French Revolution to the

First World War. May not be applied toward fulfillment of the graduate seminar requirement.

HST 558. (418) Seminar: Twentieth-Century Europe (3) Research-oriented exploration of major themes and issues in the history of Europe since 1914. May not be applied toward fulfillment of graduate seminar requirement.

HST 560. Non-Western Colloquium (3) Readings and discussion of bibliographies, interpretations, and research trends on a theme or period in non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 562. Non-Western Seminar (3) Research in the bibliography of specialized topics and use of primary sources to write an original research paper on an aspect of non-Western history. This course is open only to graduate students. May be repeated one time for credit.

HST 564. Modernization and Revolution In the Non-Western World (3) Examination of industrialization, imperialism, nationalism, and other forces that have revolutionized traditional society in the non-Western world. This course is open only to graduate students.

HST 570. (470) Introduction to Applied History (3) A research seminar that acquaints students with the various sectors of applied history (government and public policy, archives and information management, cultural resources management, media and research organizations) and with the research methodologies unique to the field. Field trips, guest speakers, and a sponsored research project provide practical experiences for participants.

HST 572. Cultural Resources Management (3) Exploration of the theories and techniques of identifying, classifying, preserving, restoring, interpreting and managing the resources that make up this country's cultural heritage. In addition to readings, discussions, guest lectures, and field trips, students will work with public, private, and non-profit agencies directly engaged in the business of preservation, restoration, and interpretation. Special emphasis will be placed on the study of three-dimensional artifacts and the meaning of material culture to the scholar. This course is open only to graduate students.

HST 574. Museum Studies (3) An introduction to the theories and practical application of managing a museum specializing in local, state, or regional history. Through readings, lectures, field trips, and a group project, students will familiarize themselves with the following: administration, collection development, preservation, research and interpretation, exhibition, educational programs and community outreach, coordinating volunteers, and fund raising. This course is open only to graduate students.

HST 575. Historical Administration (3) Introduction to the use of historical skills in managerial or administrative settings. In addition to a survey of the literature on professionalization and the role and function of the professional in a bureaucracy, students

will gain some experience in the areas of budgeting, grantsmanship, personnel administration, short-term and long-range planning, goal-setting, and strategy development. Special emphasis will be placed on issues relative to the planning, development, and management of historic sites and properties. This course is open only to graduate students.

HST 576. (482) Community Studies (3) Provides an introduction to the methodological and practical application of community studies. Topics include: oral history, folklore, ethnography, museum and archival collection and management, and historic preservation. Students will select a research project in cooperation with one of the local museums, historical societies, public libraries, or other government agencies.

HST 581. (481) Topics in African History (3) Intensive study of a selected theme in African history. Examples of topics: slavery, the slave trade and its abolition, pre-colonial Africa, colonial and post-colonial Africa, oral history in Africa. May be repeated under a different subtitle.

HST 583. (483) Topics in Middle Eastern History (3) Intensive study of a selected theme in Middle Eastern history. Examples of topics: early Islamic conquests, the Ottoman Empire, the Arab-Israeli conflict. May be repeated under a different subtitle.

HST 585. (485) Topics in Latin American History (3) Intensive study of a selected theme in Latin American history. Examples of topics: pre-Columbian civilizations. May be repeated under a different subtitle.

HST 586. (496) Topics in the History of Science and Technology (3) Intensive study of a selected theme in the History of Science and Technology. Examples of topics include: "Positivism," "Occult Studies and the Renaissance," "The Second Industrial Revolution." May be repeated under a different subtitle.

HST 587. (487) Topics in Global History (3) Intensive study of a selected theme in global history. Examples of topics: colonialism, imperialism, industrialization, slavery, revolutionary movements. May be repeated under a different subtitle.

HST 590. Comparative Historical Studies (3) Comparison of developments in different eras or places in order to determine unique or common historical themes. This course is open only to graduate students.

HST 591. Directed Independent Study (1-6). May take up to six credit hours; see the graduate history coordinator for details.

HST 593. Problems in History (3) Investigation of selected problems in European, American, and non-Western History through discussions, development of bibliographies, or a research paper. This course is open only to graduate students. May be repeated one time for credit.

HST 596. Seminar: Topics in History (3) Advanced research on specialized topics using, where possible, primary sources. This course is open only to graduate students. May be repeated one time for credit.

HST 597. (497) Topics in Asian History (3) Intensive study of selected themes and events in Asian history not regularly covered in other courses. Examples of topics include: the Chinese Revolution, Meiji Japan, Gandhian thought, and the nationalist movements. May be repeated under a different subtitle.

HST 598. Internship in Applied History (3) Prerequisite: HST 570. Academic training and practical field experience through work with a public or private historical organization, agency, or institution. Faculty supervision and evaluation of internship activities. Students must complete 120 work hours.

HST 599. Thesis (1-6). This course is open only to graduate students.

MASTER'S DEGREE PROGRAMS IN MATHEMATICS

The Department of Mathematical Sciences offers programs of study leading to the Master of Arts or Master of Science degree in mathematics. The Master of Science track has options designed to prepare students for careers in business, industry, or government as well as for further study in mathematics. Applications from the sciences, industry, and management are stressed in course work from the areas of classical applied mathematics, operations research, statistics, and computer science. The more traditional Master of Arts track includes an option designed for secondary and community college teachers. Teachers in secondary schools who wish to obtain graduate level teacher certification should check with the graduate coordinator in the School of Education to determine the current requirements for certification. There is also an option for those who intend to pursue the Ph.D. degree and a more flexible option that may be used to build a strong, broad background in basic areas of both the pure and applied sides of mathematics. The Master of Science track has more admissions prerequisites and required course work.

Admission Requirements

Applications for admission may be made at any time. Applicants are required to submit, normally by March 15 for fall admission, the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (GRE) Aptitude Test. Applicants are encouraged to take the GRE Advanced Test in mathematics as well. Scores more than five years old will not be accepted. In cases where the opportunity to take the GRE may be limited (such as in certain foreign countries) the applicant may request a waiver or modification of this requirement. Such requests will be considered by the department on their individual merit.
4. Three recommendations from individuals in professionally relevant fields.

Each applicant also must:

5. Have a strong overall academic record and have passed, with a "B" or better average, the following undergraduate mathematics courses or their equivalent: a standard introductory calculus sequence including multivariate calculus, a course in linear algebra, and at least 15 additional semester hours of mathematics or statistics courses beyond the level of calculus.

In addition, an applicant choosing the Master of Science track must:

6. Have had an undergraduate course in calculus-based statistics and have programming experience using a modern structured language; and
7. For the option Applied Mathematics I, be fluent in FORTRAN and have taken the following undergraduate mathematics courses or their equivalent: advanced calculus, elementary numerical methods, and introductory differential equations.

Admissions decisions are based upon examination of several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission. Such individuals may be required to take additional course work to remove deficiencies or required to demonstrate proficiency in certain areas. The student's advisory committee will determine any deficiencies and recommend appropriate remedies.

To ensure that the mathematical prerequisites have been met, any student not enrolled in the mathematics degree program or the MAT mathematics track must obtain permission from the Mathematical Sciences Department to register for any graduate course offered by the department.

Degree Requirements

1. The Master of Arts degree requires 24 semester hours of course work and six hours of seminar and thesis for a total of 30 semester hours. The Master of Science degree requires 30 semester hours of course work and six hours of seminar and thesis for a total of 36 semester hours. In each case, at least 15 hours of credit (including research seminar and thesis credit) must be earned from courses open only to graduate students.

2. Each student will present a thesis, acceptable to the advisory committee, prior to graduation. The student will report orally on the thesis to an audience of students and faculty during the final semester before graduation. The thesis defense will be followed by an oral examination on the student's course work.

Course Requirements for the Master of Arts in Mathematics

Each student must complete 30 semester hours of graduate study in mathematics including:

MAT 595 Research Seminar (2), and
MAT 599 Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Mathematics - Secondary* and Community College Teaching

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. The remaining 12 hours of course work should be selected from MAT 500 (strongly recommended) MAT 502, 515, 521, 522, 531, 551, 552, 555, 581, 582; STT 505, 511, 512.

*Information on secondary certification requirements may be obtained from the School of Education.

II. Mathematics - Preparation for Further Graduate Study

A. Required core sequences:
MAT 511-512 Real Analysis I, II (3,3)
MAT 541-542 Modern Algebra I, II (3,3)

B. Recommended courses:
MAT 513 Measure and Integration (3)
MAT 531 Linear Algebra (3)

C. The remaining course work must include a coherent pair of courses in mathematics or statistics, at least one of which is open to graduate students only. Acceptable pairs of courses in algebra, analysis, applied mathematics, complex analysis, linear algebra, logic, number theory, numerical analysis, probability, statistics, and topology are listed in the advising guidelines.

III. Mathematics - General

A. Required core sequences:

Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 541-542	Modern Algebra I, II
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 535-536	Linear Programming and Discrete Optimization (3,3)

B. The remaining 12 hours of course work should include a coherent pair of courses in mathematics or statistics. No more than two courses having a CSC designator and no more than two courses having a STT designator may be used to fulfill the 30-hour requirement.

Course Requirements for the Master of Science in Mathematics

Each student must complete 36 hours of graduate study in mathematical sciences including:

MAT 595 Research Seminar (2), and
MAT 599 Thesis (4)

In addition, each student must elect one of the three options below. Each student will be assigned an advisory committee of faculty who will assist in selecting those courses best suited to the student's goals and chosen option. Detailed advising guidelines are supplied to students by the department. The advisory committee must approve the student's planned program before the beginning of the second semester of residence. Any subsequent changes must have the approval of the advisory committee and the department chair.

I. Applied Mathematics I

A. Required core sequences:

	MAT 518-519	Applied Analytical Methods I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory (3,3)

B. Other required courses:

MAT (STT) 565	Applied Probability (3)
MAT 515	Introduction to Complex Variables (3)
MAT (CSC) 525	Numerical Analysis (3)
MAT 506	Scientific Computing (3)

C. At least two courses selected from STT 505, MAT (CSC) 509; MAT 526, 531, 533, 535, 536, 537, 563, 564, 568, 569, 570; CSC 575.

II. Applied Mathematics II

A. Required core sequences:

	MAT 535-536	Linear Programming and Discrete Optimization (3,3)
Either	MAT 511-512	Real Analysis I, II
or	MAT 518-519	Applied Analytical Methods I, II (3,3)

B. Other required courses:

	MAT(STT) 565	Applied Probability (3)
	MAT(STT) 569	Stochastic Processes in Operations Research (3)
Either	MAT 537	Nonlinear Programming
or	MAT 570	Simulation (3)
One of	STT 505, MAT(CSC) 509, MAT(CSC) 525 (3)	

C. The remaining course work should be selected from MAT(CSC) 504, 509, 525; MAT 506, 511, 512, 526, 531, 533, 537, 541, 570; MAT(STT) 568; STT 505; CSC 532, 575.

III. Mathematical Sciences

A. Required core sequences:

Either	MAT 518-519	Applied Analytical Methods I, II
or	MAT 511-512	Real Analysis I, II (3,3)
Either	MAT 535-536	Linear Programming and Discrete Optimization
or	MAT 531, 533	Linear Algebra, Applied Matrix Theory
or	MAT 541-542	Modern Algebra I, II (3,3)

B. At least two courses selected from STT 505; MAT(STT) 565; MAT(CSC) 509, 525

C. The remaining courses may be selected from any of those required or recommended for either Option I or II of the M.S. track.

GRADUATE PROGRAM IN MATHEMATICS

Course Descriptions

MATHEMATICS

MAT 500. Introduction to Mathematical Computing (3) Prerequisite: Permission of department. Study of a structured programming language and applications on a microcomputer. Problem solving algorithms, numerical methods and graphics.

MAT 502. Survey of Applications of Mathematics (3) Prerequisite: STT 362 and either MAT 500 or computing experience. An introduction to the techniques of discrete, continuous and stochastic mathematical modeling. Model construction, data collection, and mathematical/computer analysis are emphasized. Scientific and business applications.

MAT 504. (CSC 504) Advanced Discrete Structures (3) Prerequisite: MAT 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

MAT 506. Scientific Computing (3) Prerequisite: Fluency in FORTRAN and permission of department. Introduction to scientific computations on special-purpose machines. Machine architecture, survey of current machines, array processors, parallel processing, vectorization, software, applications.

MAT 509. (CSC 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

MAT 511-512. (411-412) Real Analysis (3-3) Prerequisite: Permission of department. Advanced study of convergence, continuity, differentiation and integration in Euclidean space. The real number system, basic topology of Euclidean spaces; sequences and series; continuity, differentiation of vector-valued functions, uniform continuity; theory of integration; implicit and inverse function theorems, Stokes' Theorem.

MAT 513. Measure and Integration (3) Prerequisite: MAT 512. Abstract measure theory. Lebesgue measure, integration, convergence theorems, absolute continuity, differentiation, Radon-Nikodym Theorem, product measures, Fubini's Theorem, Lebesgue spaces, convolution.

MAT 514. Functional Analysis and Applications (3) Prerequisite: MAT 512. Introduction to functional analysis and applications to areas such as linear and non-linear differential equations, integral equations and control theory. Topics selected from Banach spaces, operators, the Hahn-Banach Theorem, open mapping and closed graph theorems, Sovolev spaces, operators in Hilbert spaces and operational calculus.

MAT 515. (415) Introduction to Complex Variables (3) Prerequisite: Advanced calculus or MAT 511. A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties; analytic functions; power series; integration, Cauchy's Theorem, Laurent series and residue calculus; elementary conformal mappings and boundary value problems.

MAT 516. Complex Analysis (3) Prerequisite: MAT 511 and 515. Advanced study of complex-valued functions. Holomorphic and harmonic functions, Cauchy's Integral Theorem, Poisson's kernel and the Dirichlet problem, conformality, the Riemann Mapping Theorem, analytic continuation. Additional topics chosen from univalent, entire, meromorphic functions; Riemann surfaces; asymptotic methods; Mittag-Leffler, Runge and Weierstrass factorization theorems.

MAT 518-519. (418-419) Applied Analytical Methods (3-3) Prerequisite: Undergraduate differential equations and advanced calculus. A thorough treatment of the solution of initial and boundary value problems of partial differential equations. Topics include classification of partial differential equations, the method of characteristics, separation of variables, Fourier analysis, integral equations and integral transforms, generalized functions, Green's functions, Sturm-Liouville theory, approximations, numerical methods.

MAT 521. (421) Number Theory I (3) Prerequisite: Permission of department. Use of algebraic techniques to study arithmetic properties of the integers and their generalizations. Primes, divisibility and unique factorization in integral domains; congruences,

residues and quadratic reciprocity; diophantine equations and additional topics in algebraic number theory.

MAT 522. Number Theory II (3) Prerequisite: MAT 521. A continuation of the study of number theory using analytic methods. Number theoretic functions; distribution of primes and the prime number theorem; the Riemann zeta function; diophantine approximation and the geometry of numbers; additional topics in analytic number theory.

MAT 525. (425) (CSC 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximations; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations. Error analysis. Certain algorithms are selected for programming.

MAT 526. Advanced Numerical Analysis (3) Prerequisite: MAT 525. Continuation of MAT 525. Rational and trigonometric interpolation, numerical integration, iterative techniques, eigenvalue problems. Numerical solution of initial and boundary value problems for ordinary differential equations, large linear systems, and partial differential equations.

MAT 531. Linear Algebra (3) Prerequisite: Permission of department. Theory of vector spaces, linear mappings and matrices. Determinants, eigenvalues, canonical forms, the Cayley-Hamilton Theorem, inner product spaces and positive definite matrices.

MAT 533. Applied Matrix Theory (3) Prerequisite: Undergraduate linear algebra and computing experience. Matrix theory and numerical techniques in linear algebra. Topics include elimination, iteration and factorization methods for systems of linear equations; minimal polynomials, eigenvalue approximations, norms and error estimates, spectral theorem, symmetric and unitary bilinear forms.

MAT 535. (435) Linear Programming (3) Prerequisite: Undergraduate linear algebra and computing experience. Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality; parametric linear programs; sensitivity analysis; modeling and computer implementation.

MAT 536. (436) Discrete Optimization (3) Prerequisite: MAT 535. Theory and applications of discrete optimization algorithms. Transportation problems and network flow problems; integer programming; computer implementation.

MAT 537. Nonlinear Programming (3) Prerequisite: Advanced calculus and MAT 535. Theory and applications for constrained and unconstrained nonlinear optimization. Theory of convex sets, convex and concave functions, Kuhn-Tucker conditions, duality, algorithm convergence; computational methods including penalty and barrier functions, gradient projection, and quadratic programming.

MAT 541. Modern Algebra I (3) Prerequisite: Permission of department. Introduction to group theory. Binary structures including semigroups and lattices; finite groups, structure theorems, Sylow theorems and applications; group actions; free groups and presentations; structure of abelian groups.

MAT 542. Modern Algebra II (3) Prerequisite: MAT 541. Introduction to rings and fields. Modules, integral domains,vector spaces. Structure of polynomial rings and their relation to linear algebra. Field extensions and Galois theory.

MAT 545. Group Theory (3) Prerequisite: MAT 541. Theory of groups. Isomorphism theorems; permutation groups and representation theorems; finite direct products and the fundamental theorem of abelian groups; the Sylow theorems and generalizations; normal series and solvable groups; extensions and semidirect products; theory of simple groups.

MAT 551. (451) Topology I (3) Prerequisite: Permission of department. A study of the basic concepts of general topology. Metric spaces, continuity, completeness, compactness, connectedness, separation axioms, product and quotient spaces; additional topics in point-set topology.

MAT 552. Topology II (3) Prerequisite: MAT 551 and knowledge of elementary group theory. An introduction to the concepts of algebraic topology. Classification of surfaces, manifolds, the fundamental group, covering spaces; additional topics in algebraic topology.

MAT 555. Modern Geometry (3) Corequisite: MAT 541. A survey of modern geometry from several perspectives. Euclidean and non-euclidean axiomatic geometries; finite geometries; projective geometry; transformations and invariants. Additional topics may include introductions to algebraic geometry, combinatorial geometry or differential geometry.

MAT 557. (457) Differential Geometry (3) Prerequisite: Advanced calculus. Theory of curves and surfaces in Euclidean space. Frenet formulas, curvature and torsion, arc length; first and second fundamental forms. Gaussian curvature, equations of Gauss and Codazzi, differential forms, Cartan's equations; global theorems.

MAT 558. Differentiable Manifolds (3) Prerequisite: MAT 557. A study of differentiable manifolds. Functions of several variables and mappings, implicit and inverse function theorems. Vector fields, tensors and forms, exterior derivatives, Lie derivatives, covariant derivatives and connections; Riemannian metrics, torsion and curvature tensors, Cartan's equations; Lie groups; submanifolds.

MAT 563. (463) Ordinary Differential Equations (3) Prerequisite: Undergraduate linear algebra and differential equations. Advanced study of ordinary differential equations. Existence and uniqueness; systems of linear equations, fundamental matrices, matrix exponential; series solutions, regular singular points; plane autonomous systems, stability and perturbation theory; Sturm-Liouville theory and expansion in eigenfunctions.

MAT 564. Applied Analytical Models (3) Prerequisite: MAT 519. Topics in applied analysis of current interest. Topics may include tensor analysis and relativity, quantum mechanics, control theory, fluid mechanics, waves, ocean circulation, and mathematical models in biology or economics.

MAT 565. (465) (STT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

MAT 568. (STT 568) Stochastic Processes In Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

MAT 569. (STT 569) Stochastic Processes In Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

MAT 570. Simulation (3) Prerequisite: MAT/STT 565. Study of computer simulation of discrete and continuous random processes. Generation of pseudo-random variables, discrete event simulation, simulation design, simulation languages, statistical analysis of simulation output. Applications to modeling stochastic systems in computer science, engineering, and operations research.

MAT 581. (481) Introduction to Mathematical Logic (3) Prerequisite: Permission of department. The formal study of truth and provability. Propositional calculus; predicate calculus. Gödel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or nonstandard analysis.

MAT 582. Set Theory (3) Prerequisite: MAT 581. An account of contemporary set theory. The Zermelo-Fraenkel axioms, ordinals and cardinals, models of set theory. The concepts of large cardinals, constructibility and the independence results.

MAT 592. Advanced Topics in Mathematics (3) Prerequisite: Consent of instructor. Advanced topics of current interest in pure and applied mathematics not covered in existing courses.

MAT 595. Research Seminar (2) Prerequisite: Consent of instructor. Designed to give the student experience in locating and learning mathematics outside the classroom setting. Use of the major mathematics journals, professional society publications and standard references including Mathematical Reviews. The nature of research in the mathematical sciences and research methodology.

MAT 596. Research Project (1) Corequisite: MAT 595. (Not intended for students who write a thesis in mathematics.) Under faculty supervision, each student presents a written exposition of the history, current knowledge, future directions, and bibliography of a mathematical topic.

MAT 599. Thesis (1-6)

COMPUTER SCIENCE

CSC 504. (MAT 504) Advanced Discrete Structures (3) Prerequisite: CSC 231 or consent of instructor. Survey of the mathematical foundations of computer science. Mathematical logic, set theory, algebraic structures, lattices and Boolean algebra, graph theory, introduction to computability theory.

CSC 509. (MAT 509) Design and Analysis of Algorithms (3) Prerequisite: CSC 332. Theory of the design of efficient computer algorithms. Algorithms for sorting, searching, matrix operations, fast Fourier transforms, pattern matching, polynomial arithmetic and operations on graphs. Additional topics selected from NP-completeness, recursion, data structure selection and complexity.

CSC 525. (425) (MAT 525/425) Numerical Analysis (3) Prerequisite: Undergraduate linear algebra, differential equations, and elementary numerical methods. Introduction to the theoretical foundations of numerical algorithms. Solution of linear systems by direct methods; least squares, minimax, and spline approximation; polynomial interpolation; numerical integration and differentiation; solution of nonlinear equations; initial value problems in ordinary differential equations; error analysis. Certain algorithms are selected for programming.

CSC 532. (432) Advanced Data Structures (3) Prerequisite: Undergraduate linear algebra and data structures. Advanced topics in data structures, with emphasis on algorithmic complexity. Recursive list manipulations; paradigms of search; bi-connectivity, strong connectivity, and precedence relations in graphs; pattern matching; search trees; methods for memory management and secondary storage; optimal techniques for sorting, merging, and selection.

CSC 575. Advanced Computer Graphics (3) Prerequisite: Undergraduate linear algebra, elementary numerical methods, data structures, and some prior familiarity with graphics. Brief review of two-dimensional graphics. Topics may include: approximation methods for curves, representations for solids, transformations, projections, hidden lines and surfaces, ray tracing, radiosity. Extensive programming required.

CSC 592. Topics in Computing (3) Prerequisite: Consent of instructor. Topics in computing of current interest not covered in existing courses.

STATISTICS

STT 505. Data Analysis (3) Prerequisite: STT 362. Introduction to exploratory data analysis. Use of stem and leaf plots, boxplots. Transformations of data, resistant lines, analysis of two-way tables, residual analysis. Comparison of robust/resistant methods with standard statistical techniques.

STT 511. (411) Design of Experiments and Analysis of Variance (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; design of experiments including completely randomized, randomized block, factorial, split-plot, and repeated measures designs; analysis of variance; non-parametric alternative methods of analysis. Statistical software packages will be used as appropriate in problem solving.

STT 512. (412) Applied Regression and Correlation (3) Prerequisite: Any elementary statistics course. Review of elementary statistics; linear and multiple regression; correlation. Statistical software packages will be used as appropriate in problem solving.

STT 530. (430) Introduction to Non-parametric Statistics (3) Prerequisite: STT 362. Theory and methods of non-parametric statistics in the one- and two-sample problems and their comparisons with standard parametric procedures. Non-parametric tests for comparing more than two samples; tests of randomness and independence.

STT 540. (440) Linear Models and Regression Analysis (3) Prerequisite: STT 362. Theoretical introduction to the general linear model and its application to simple linear regression and multiple regression. Estimation and hypothesis testing of model coefficients; residual analysis; analysis of covariance.

STT 565. (465) (MAT 565/465) Applied Probability (3) Prerequisite: STT 362. The formulation, analysis and interpretation of probabilistic models. Selected topics in probability theory. Conditioning, Markov chains, and Poisson processes. Additional topics chosen from renewal theory, queueing theory, Gaussian processes, Brownian motion, and elementary stochastic differential equations.

STT 566-567. (466-467) Mathematical Statistics (3-3) Prerequisite: STT 362. A rigorous introduction to mathematical statistics. Univariate and multivariate probability distributions; conditional and marginal distributions; theory of estimation and hypothesis testing; limiting distributions and the central limit theorem; sufficient statistics and the exponential class of probability density functions.

STT 568. (MAT 568) Stochastic Processes in Applied Mathematics (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in the sciences and engineering. Markov processes, diffusion, stochastic differential equations.

STT 569. (MAT 569) Stochastic Processes in Operations Research (3) Prerequisite: MAT/STT 565. Probabilistic models with applications in operations research. Queueing theory, birth-death processes, embedded Markov chains, finite and infinite waiting-room systems, single and multi-server queues, general service distributions; Markov decision processes; reliability.

STT 592. Topics in Statistics (3) Prerequisite: Consent of instructor. Topics in statistics of current interest not covered in existing courses.

MASTER OF ARTS IN PSYCHOLOGY

The Department of Psychology offers a program leading to the Master of Arts in psychology. The specific goals of the program in general psychology are to emphasize the scientific methods and principles common to all fields of psychology. Within the program there are two separate concentrations:

1) a general concentration with a major goal to prepare students for entry into doctoral programs in applied or experimental psychology;
2) an applied concentration with a specific focus on the use of psychotherapy in the treatment of substance abuse problems. The purpose of this concentration is to help prepare students for the North Carolina Psychological Associate Licensure Examination and the North Carolina Substance Abuse Professional Certification Examination.

Admission Requirements

Applicants seeking admission to the graduate program in psychology are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Exam (aptitude and advanced psychology)
4. Three recommendations from educators or others with professionally relevant information

Students desiring admission into the graduate program in psychology must meet the following requirements: (a) a bachelor's degree from an accredited college or university or its equivalent from a foreign institution of higher education; (b) a strong academic record with an average of "B" or better in at least 18 hours of psychology courses, including a research methods course; (c) satisfactory scores on the aptitude and subject (psychology) portions of the Graduate Record Examination.

Students who have majored in psychology or who have taken substantial coursework in psychology while majoring in another field will be considered for acceptance into the program. Because admission decisions will be based upon careful consideration of all relevant factors, individuals who have indicators of success may be admitted even though they fall below some specified criteria. Individuals with identified deficiencies may be accepted provisionally with specified plans and goals for the remediation of those deficiencies. Such remediations may include a requirement of additional hours beyond those normally required for the degree.

Applications which are postmarked no later than March 1 will receive first consideration for the following fall semester. Applications postmarked after that date will be reviewed on a space-available basis. All interested applicants will be considered for graduate assistantships, which will be awarded on a competitive basis when they become available.

Degree Requirements

1. The general concentration will require a minimum of 32 semester hours; the applied substance abuse concentration will require a minimum of 47 hours.

2. Courses open only to graduate students: All students will take at least 32 hours of coursework open only to graduate students.

3. Students must maintain a "B" average in all graduate courses taken. A student ineligible to continue because of poor grades, based upon special circumstances, may petition the

Graduate School for reinstatement. A petition for reinstatement must be accompanied by statements of endorsement or non-endorsement from both the department chairperson and the dean of the College of Arts and Sciences. A student so reinstated will be dismissed if any additional grade below that of "B" is earned.

4. A minimum of 24 semester hours of graduate study must be completed in residence.

5. A faculty committee, composed of a chairman and at least two other members of the Graduate Faculty, will be established for each student within the first two semesters in residence. One committee member may be from outside the field of concentration. This committee will oversee the student's thesis and program of study.

6. A comprehensive written examination must be successfully completed. This is usually done during the semester in which the student is enrolled in final course work.

7. The student will present and defend a thesis which is acceptable to the faculty committee, prior to graduation.

8. Satisfactory completion of eight hours of Research Methods courses are required.

9. Each student must complete an approved course of study within five years of the date of the first registration for graduate study to be eligible for graduation.

10. PSY 591 may be repeated only once for credit toward the graduation requirement.

Requirements for the Master of Arts in psychology

Core courses: required of all students seeking a Master of Arts in psychology.

I. Research Methods (eight hours required of all students)

PSY 555 Psychological Research Methods I (3)
PSY 579-580 Advanced Research Practicum (1-1)
PSY 589 Psychological Research Methods II (3)

II. Required courses

PSY 510 Cognitive and Developmental Psychology (3)
PSY 517 Learning and Behavior Analysis (3)
PSY 556 Advanced Physiological Psychology (3)
PSY 565 Personality and Social Psychology (3)

III. PSY 599 Thesis (six hours to be taken over at least two semesters)

General psychology requirements:

In addition to the core courses, students seeking a Master of Arts in psychology under the general psychology concentration must also complete the following:

PSY 595 Topical Seminar (2):
In addition to the core, students electing the general concentration are required to take a minimum of three two-hour seminars.

Applied psychology requirements:

In addition to the core courses, students seeking a Master of Arts in psychology under the applied psychology concentration must also complete the following:

PSY 525 Psychological Assessment (3)
PSY 545 Chemical Dependency (3)
PSY 547 Advanced Psychopathology (3)
PSY 550 Advanced Psychotherapy (3)
PSY 551 Intervention Strategies in Alcohol & Drug Problems (3)
PSY 552 Ethical and Legal Issues in Mental Health (1)
PSY 595 Topical Seminar (2) (on applied topics)
PSY 598 Internship (3)

GRADUATE PROGRAM IN PSYCHOLOGY

Course Descriptions

PSY 510. Cognitive and Developmental Psychology (3) Prerequisite: Course in cognition, perception, or developmental psychology or permission of instructor. Examination and evaluation of research and theories concerning: 1) processes of human cognition such as memory, thinking, attention, and problem solving; and 2) areas of human and nonhuman development such as social, emotional, motor behavior, and cognitive.

PSY 517. Learning and Behavior Analysis (3) Prerequisite: Course in learning or permission of instructor. Advanced topics in animal and human learning and the analysis of behavior, including theories, research methods, and experimental findings.

PSY 525. Psychological Assessment (3) Prerequisite: Permission of instructor. Role, administration, and responsible uses of psychological testing. Topics include administration and interpretation of basic vocational, aptitude, intelligence, and personality tests and interpretation of assessment reports prepared by others.

PSY 545. (445) Chemical Dependency (3) Prerequisite: Course in drugs and behavior or permission of instructor. Topics include basic psychopharmacology, theory, method, and research in the study of substance abuse and advanced consideration of causes, consequences and treatments of the major addictive disorders.

PSY 547. Advanced Psychopathology (3) Prerequisite: Course in psychopathology or permission of instructor. Etiology, assessment, and treatment of the major psychological disorders. Emphasis is on appropriate use of diagnostic systems and on ethical and legal issues in diagnosis.

PSY 550. Advanced Psychotherapy (3) Prerequisite: PSY 547 and permission of instructor. Advanced study of major theories of psychotherapy, psychotherapy research, and psychotherapy skills. Practical interviewing and intervention skills are emphasized. Format includes lecture, independent reading, and experiential exercises.

PSY 551. Intervention Strategies in Alcohol and Drug Problems (3) Prerequisite: PSY 545, PSY 550, and permission of instructor. Review of multidisciplinary theory and

practice in treatment of alcohol and drug dependent clients. Topics include nondirective approaches, cognitive/behavioral approaches, 12-step approaches, family therapy, and group process. Format includes lecture and experiential exercises.

PSY 552. (452) Ethical and Legal Issues in Mental Health (1) Prerequisite: Permission of instructor. Ethical and legal issues involved in psychological testing, research, and treatment. Topics include confidentiality, networking with other agencies, involuntary commitment, psychology and the law, and review of ethical principles.

PSY 555. Psychological Research Methods I (3) Prerequisite: Course in research methods or permission of instructor. Advanced study of research design and statistical analysis applicable to research in psychology. Topics in basic psychological statistics are taught from an advanced perspective and include analysis of variance, correlational and nonparametric techniques.

PSY 556. Advanced Physiological Psychology (3) Prerequisite: Physiological psychology course or permission of instructor. Advanced topics in the anatomical and physiological study of the nervous system and behavior. Topics include brain-behavior relationships, neuropathologies, advantages and disadvantages of different techniques in neuroscience, and brain mechanisms of reward and drug addiction.

PSY 565. Personality and Social Psychology (3) Prerequisite: Course in personality or social psychology or permission of instructor. Current research trends in social and personality psychology. Emphasis is on the relation of personality and situational factors in determining behavior.

PSY 579-580. Advanced Research Practicum (1-1) Students may participate in a variety of different research projects. Ongoing research opportunities include practica in cognitive development, behavioral pharmacology, neuropharmacology, animal behavior, social psychology, clinical issues, behavioral medicine and others.

PSY 589. Psychological Research Methods II (3) Prerequisite: PSY 555. Overview of the various research strategies and designs used in psychology. Application and extension of methods learned in Psychological Research Methods I to contemporary research problems in psychology.

PSY 591. Directed Independent Study (1-3) May be repeated once for credit.

PSY 595. Topical Seminar (2) Prerequisite: Permission of instructor. Advanced topics in psychology. Examples of seminars offered include: Advanced Topics in Substance Abuse, Animal Behavior, Behavioral Neuroscience, Behavior Analysis, Behavioral Medicine, Chemical Dependency, Clinical Neuropsychology, Cognitive Psychology, Developmental Psychology, Dual Diagnosis, Family Therapy, Psychological Aspects of HIV Infection, Psychopharmacology, Psychotherapy, Rehabilitation Psychology, Sensation and Perception, Social and Community Psychology, Statistics and Computer Applications, and Women and Alcohol. May be repeated for additional credit.

PSY 598. Internship (3) Prerequisite: PSY 525, PSY 547, PSY 551, PSY 552 and permission of instructor. One thousand hours of supervised practice in the application of psychological assessment and psychotherapy skills. Trainees work in an applied setting where substance abuse therapy is offered refining clinical skills with regular consultation with a supervisor.

PSY 599. Thesis In Psychology (1-6) Prerequisite: PSY 589. Intensive study of topic selected by student and approved by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

THE CAMERON SCHOOL OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION

The Cameron School of Business Administration offers a program of study leading to a Master of Business Administration degree for any qualified holder of a bachelor's degree from an accredited college or university regardless of undergraduate field of study. The program's purpose is the development of the broadly educated professional manager.

Specific objectives include:

Preparation in the traditional functions of business, such as accounting, economics, finance, marketing, business regulation and legal environment, information systems, organizational behavior, and operations management;

Preparation for the current and future challenges facing the leaders of tomorrow with emphasis on such key areas as communications, organizational change, international business, social responsibility, and ethics, strategic planning and corporate policy;

A program designed for active participation of leaders in the business and professional community; and

Quality instruction by well-qualified and experienced faculty, with classes scheduled for evening students.

Admission Requirements

Applicants seeking admission to the graduate program in business administration are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Management Admission Test (GMAT)
4. Three recommendations including one from an employer or supervisor who can comment on the applicant's work experience and potential for successful completion of a master's program.

A strong overall academic average, a total score of 1,000 or more based on the formula: 200 times the upper division grade point average (4.0 systems) plus the GMAT score, and at least one year of appropriate full-time work experience are minimum requirements for consideration for graduate admission. However, admission decisions are based upon several factors, and if other indicators of success are evident, individuals who fall below the established criteria in one of the areas may be considered for admission.

Degree Requirements

1. 54 semester credit hours of approved graduate credit must be satisfactorily completed for the degree. This number of credit hours may be reduced for students who qualify for, and are granted, certain course waivers. Petitions for waiver are submitted to the dean of the Cameron School of Business Administration upon acceptance for admission into the program. Despite the number of waivers granted, a minimum of 42 semester hours of graduate study must be completed. Up to six hours of graduate study may be accepted as

transfer from an accredited college or university. However, the last 36 hours of graduate study must be completed at the University of North Carolina at Wilmington.

2. The student must satisfy a minimal mathematics requirement in calculus. This requirement may be satisfied by completing MAT 151, its equivalent, or by passing the Advanced Placement Test (AB) in calculus.

3. The student must successfully complete an oral comprehensive examination.

4. Each student must complete the approved course of study within five years of the date of first registration for graduate study.

Course Requirements for the Master of Business Administration Degree

Students with undergraduate or graduate work in business administration may have the program of study reduced through waivers for certain courses. Students with no prior work in business administration will be required to take the following program.

A. Core Requirements (24 semester hours)

The following courses comprise the core of knowledge essential to a basic understanding of modern business and managerial practice.

These courses must be completed by each student unless evidence is presented of substantial academic work in such courses at the undergraduate or graduate level. Requirements may be waived on a course-by-course basis by the MBA Coordinator, subject to approval of the dean of the Cameron School of Business Administration.

ACG	501	Financial Accounting (3)
ECN	520	Economic Analysis I (3)
PDS	513	Quantitative Methods (3)
PDS	518	Management Information Systems (3)
BLA	560	Legal Environment and Business Regulation (3)
MGT	550	Organization Theory and Behavior (3)
FIN	535	Managerial Finance (3)
MKT	540	Marketing Management (3)

B. Professional Competence and Integrative Applications (24 semester hours)

In addition to the Core Requirements, the following courses develop depth and breadth of knowledge and provide analytical skills for practical application.

ACG	502	Managerial Accounting (3)
ECN	521	Economic Analysis II (3)
MGT	555	Practice of Management (3)
PDS	517	Production/Operations Management (3)
MGT	565	Current Issues in Business (1-1-1)
MGT	595	Corporate Policy and Strategy (3)
FIN	536	Financial Policy (3)
MKT	546	Strategic Marketing (3)

C. Electives (six semester hours)

Candidates will strengthen their knowledge and sharpen their skills in particular areas by taking at least two courses from the elective areas: accountancy, economics, management,marketing, finance, production and decision sciences.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

Course Descriptions

ACCOUNTANCY

ACG 501. Financial Accounting (3) An intensive course in accounting principles with special emphasis on the concepts underlying income determination, preparation and interpretation of financial statements and the managerial uses of accounting information. Topics include transaction analysis, asset valuation and expense and revenue recognition, capital structure and tools of financial analysis.

ACG 502. Managerial Accounting (3) Prerequisite: ACG 501. Interpretation and use of accounting information in the planning, coordination and controlling of business activities. Topics include cost behavior, manufacturing and distribution cost-volume-profit relationships; effects of taxation and price-level changes on business decisions; budgeting and responsibility accounting. Case studies emphasized.

ACG 503. Advanced Managerial Accounting (3) Prerequisite: ACG 502. An in-depth study of cost concepts appropriate for decision-making and of the budgetary procedures used in planning and control. Emphasis is placed on relating recent advances in the quantitative and behavioral sciences to the role of the contemporary managerial accountant. Case analysis is emphasized.

ACG 506. Current Issues in Financial Accounting (3) Prerequisite: ACG 501. Advanced study of the principles and theory underlying the preparation of financial statements. Consideration is given to the problems related to pension plans, long-term leasing arrangements, refunding of bonds outstanding, allocation of income taxes, changing price levels, and other controversial issues. Utilizes text, authoritative statements, and articles from the current literature.

ACG 508. Taxation and Business Decisions (3) Prerequisite: ACG 501. The accounting and managerial effects of taxation upon decisions, policies, and procedures in the planning, organization, and operation of a business enterprise. Areas covered include the taxing process; taxation of individuals, corporations and fiduciaries; investment incentives; capital gains and losses; tax shelters; and tax planning. Problems and case analysis are used.

ACG 565. Current Issues in Business (1-1-1) (see MGT 565.)

ACG 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

ACG 592. Topics in Accounting (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

BUSINESS LAW

BLA 560. Legal Environment and Business Regulation (3) A study of the management process and how it is influenced by the constitutional, legislative, judicial, regulatory, administrative, and social forces exerted on the business and social environment.

BLA 565. Current Issues in Business (1-1-1) (See MGT 565.)

BLA 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

BLA 592. Topics in Business Law (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

MANAGEMENT

MGT 550. Organization Theory and Behavior (3) Study of historical, theoretical and practical foundations for understanding organizational structure, behavior and performance. Emphasis on problem solving issues and applications in design, leadership, motivation and interpersonal communications.

MGT 555. Practice of Management (3) Prerequisite: BLA 560 and MGT 550. Major problems and decision areas confronting middle and upper-level managers. Topics include long-range planning, management by objectives, project management, leadership style, and performance appraisal. Case analysis is used to foster application of current managerial techniques to the analysis, solution, and prevention of organizational problems.

MGT 556. Human Resource Systems (3) Prerequisite: MGT 550. A study of manpower planning, training and development, job analysis, employee evaluation, labor legislation, history of the labor movement and the processes for negotiating and establishing workplace rules and procedures. Designed to foster understanding of the management of human resources rather than a technical orientation.

MGT 558. Organizational Behavior (3) Prerequisite: MGT 550. An examination of the persistent human problems in organizations including motivation, resistance to change, interpersonal and intergroup conflict, managing superior/subordinate relations. This course incorporates ideas from the behavioral sciences to provide a foundation for identifying and solving the human side of an organization's operations. Case studies are emphasized.

MGT 565. Current Issues in Business (1-1-1) Current and emerging issues that affect and are affected by business. Topics focus on three major categories:(1) International Business; (2) Communications and Technology; and (3) Business Trends and Developments. At least three hours are required and each candidate must include at least one hour in each of the above categories.

MGT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MGT 592. Topics in Management (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

MGT 595. Corporate Policy and Strategy (3) Prerequisite: To be taken in the final year of the candidate's program of study. An integrative course focusing on factors considered by top-level executives in formulating both short-term and long-term corporate strategies. Particular attention is directed toward analysis of business trends, development of corporate strengths, and formulation of policies and plans. Involves extensive use of case analysis.

ECONOMICS

ECN 520. Economic Analysis I (3) Prerequisite: The mathematics of calculus. Economic analysis of demand, cost, resource allocation, and decision-making in alternative market structures for an individual firm and household perspective. Aggregate economic analysis examining monetary and fiscal policy and their effects on employment, income and the price level.

ECN 521. Economic Analysis II (3) Prerequisite: ECN 520 and PDS 513. An examination of the economic environment in which businesses make decisions. Particular attention to world-wide economic integration and decision-making in this environment. Topics emphasize government economic policy as to its effects onthe cost, availability and use of funds. Hedging and financial decision-making in an international context receive special consideration.

ECN 526. International Trade and Finance (3) Prerequisite: ECN 520 and FIN 535. A study of the principles underlying world trade, exchange rate adjustments, balance of payments analysis, international financial markets, direct foreign investment, the international monetary system and the new international economic order. Discusses U.S. commercial policy, transnational corporations, international joint ventures, economic integration, preferential treatment and world-wide trading practices.

ECN 528. International Finance Instruments and Markets (3) Prerequisite: ECN 521 and FIN 535. An overview of world-wide money and capital markets. Sources, uses and cost of funds and the impact of various central banks and treasuries are analyzed from a world-wide integrated market perspective. Primary emphasis on financial decision making in an integrated world economy with flexible exchange rates.

ECN 565. Current Issues in Business (1-1-1) (see MGT 565.)

ECN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

ECN 592. Topics in Economics (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

FINANCE

FIN 535. Managerial Finance (3) Prerequisite: ACG 501 and ECN 520. Financial decision-making in the modern business organization. A study of the basic principles, concepts, and analytical tools in the primary areas of finance including valuation models, cost of capital, capital budgeting, capital structure, and working capital policy.

FIN 536. Financial Policy (3) Prerequisite: FIN 535. Conceptual foundations for theories in the major areas of financial management, the theoretical context and validity of formalized techniques for improving decision making in capital budgeting, capital structure, dividend policy, mergers, bankruptcy, the use of convertible securities, and international finance. Case studies used extensively to supplement the conceptual foundations.

FIN 537. Financial Institutions and Markets (3) Prerequisite: FIN 535. Financial institutions as suppliers of funds to the money and capital markets. Comparative financial policies and portfolio considerations of institutions in the context of their changing market environments. The impact of the economic and regulatory climate on portfolio adjustments also are examined. Cases and bank simulation analysis used.

FIN 538. Investments and Portfolio Analysis (3) Prerequisite: FIN 535. Analysis of financial assets as appropriate investment alternatives. Analysis and evaluation of securities and portfolio management. Securities market information and theories of security selection are examined.

FIN 565. Current Issues in Business (1-1-1) (See MGT 565.)

FIN 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

FIN 592. Topics in Finance (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

MARKETING

MKT 540. Marketing Management (3) An examination of the major factors to be considered in the analysis, development, and control of marketing programs. Particular attention is directed to decisions concerning product service offering, price strategy, promotional methods, and the channels of distribution. Emphasis is placed on the role that marketing plays in the overall operation of the firm.

MKT 546. Strategic Marketing (3) Prerequisite: MKT 540. Major factors considered are setting marketing objectives, identifying market opportunities, selecting target markets, developing new products, formulating integrated marketing strategies, and solving marketing problems. Case analysis is used extensively to foster the application of marketing models and techniques to improve organizational performance.

MKT 548. Promotional Management (3) Prerequisite: MKT 540. Theories and practices of advertising, sales management, and sales promotion as they relate to the total

marketing effort. Attention is directed to sales forecasting, media analysis, and the criteria for evaluating the results of the integrated marketing program. Case study is emphasized.

MKT 549. Marketing Research and Analysis (3) Prerequisite: PDS 513 and MKT 540. An examination of methods of gathering, processing, and analyzing information from the marketplace. Topics covered include problem identification, research design, primary and secondary sources of data, methods of data collection, scaling methods, and sampling techniques. Particular attention is directed to data-generation methods and improving marketing decision-making.

MKT 565. Current Issues in Business (1-1-1) (See MGT 565.)

MKT 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

MKT 592. Topics in Marketing (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

PRODUCTION AND DECISION SCIENCES

PDS 513. Quantitative Methods (3) Prerequisite: Completion of mathematics through calculus. Techniques for the analysis of business data. Topics include descriptive and inferential statistical methods, probability theory, and linear programming.

PDS 514. Advanced Quantitative Methods (3) Prerequisite: PDS 513. Quantitative techniques for the solution of business problems. Topics include mathematical programming, simulation, queueing theory, network theory, and game theory. Emphasizes the mathematical formulation and solution of problems using a computer.

PDS 517. Production/Operations Management (3) Prerequisite: PDS 513 and MGT 550. Techniques to aid the operations manager in making key decisions during the initial, online, and control stages of production. Topics include product and process design; facility size, location and layout; demand forecasting; production and work-force planning; quality control; and facilities maintenance. Formulation of problems for solution by the computer is an integral part of the course.

PDS 518. Management Information Systems (3) A study of the process of analyzing, designing, and implementing computer-based systems that have information as their product. Minicomputer and microcomputer projects provide opportunities for comparing concepts with actual systems. An introduction to the BASIC programming language and orientation on the VAX minicomputer system are integral parts of the course.

PDS 519. Advanced Business Statistics (3) Prerequisite: PDS 513. Advanced statistical applications used to support the business decision-making process. Topics include multiple linear regression, nonlinear regression, time-series analysis, experimental design, decision theory, and non-parametric statistics.

PDS 565. Current Issues in Business (1-1-1) (See MGT 565.)

PDS 591. Directed Individual Study (1-3) Prerequisite: Consent of the MBA coordinator.

PDS 592. Topics in Production and Decision Sciences (3) Prerequisite: Consent of instructor. Topics of current issues not covered in existing courses.

SCHOOL OF EDUCATION

The School of Education offers six master's degree programs in professional education: (1) a Master of Education program in elementary education, (2) a Master of Education program in middle grades education, (3) a Master of Education program in reading education, (4) a Master of Education program in special education with a track in mildly handicapped (cross-categorical), (5) a Master of Education program in educational administration and supervision with tracks in educational administration and supervision, and (6) a Master of Arts in Teaching program in the following specialties: biology, chemistry, English, history and mathematics.

Coursework in Reading Recovery™ is available to students meeting specific admissions criteria, including holding a master's degree in reading or closely related area, at least five years of teaching experience, and having the nomination of a school district or consortium that has filed application to become a Reading Recovery™ site. Persons successfully earning certification are qualified and approved by the National Diffusion Network to serve as teacher leaders for the Reading Recovery™ program within public school systems. For additional information and requirements, contact the Department of Curricular Studies in the School of Education.

MASTER OF EDUCATION

Admission Requirements

Applicants seeking admission to a (M.Ed.) graduate program in education are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official copies of transcripts of all college work (undergraduate and graduate)
3. Official scores on the Miller Analogies Test
4. Three recommendations by individuals in relevant professional fields

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant individuals who fall below the established criteria in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in elementary education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in early childhood education, intermediate education, elementary education, or middle grades education. Applicants to the program in middle grades education are required to hold, or be qualified to hold, North Carolina Class "A" teacher certification in elementary, special education, secondary or middle grades education. Applicants to the program in special education are required to hold, or be qualified to hold, North Carolina Class "A" special education teacher certification in at least one area of exceptionality and are required to have taken at least one course in mental retardation, one course in learning disabilities, and one course in emotional disturbance. Applicants to the educational administration and supervision and reading programs are required to hold, or be qualified to hold, North Carolina Class "A" elementary, middle grades, special education or secondary teacher certification. Applicants to the Master of Arts in Teaching must hold, or be qualified to hold, North Carolina Class "A" secondary teacher certification in biology, chemistry, English, history, or mathematics.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exceptions are appropriate include community college administrators and teachers. In such instances, the programs may be modified appropriately. However, upon completion of the graduate program individuals admitted under such exceptions are not qualified for the institution's recommendation for North Carolina Board of Education instructional or administrative certifications. (NOTE: Certification requirements change, and requirements must be adjusted to accommodate new mandated competencies and guidelines. Students should check with their advisors or the dean's office to keep informed of changes.)

Students who seek professional improvement or certificate renewal but do not intend to pursue a degree may register for graduate courses through procedures established for non-degree students. Those procedures are described in an earlier section of this **catalogue**.

Degree Requirements for Master of Education (M.Ed.) Programs

Elementary Education

The program leading to the Master of Education degree in elementary education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in early childhood education (K-4), intermediate education (4-6), or elementary education (K-6). The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," conceptual foundations, and elementary specialty courses. The National Teacher Examination, specialty area, is required for certification.

I. Elementary Core

EDN 500 Human Development and Learning (3)
EDN 502 Schools and Society (3)
EDN 523 Research in Education (3)
or
EDN 525 Tests, Measures and Measurement in Education (3)
EDN 530 Curriculum (3)

II. Elementary Specialty Courses

Choose six courses, at least one from each of the following groups.

A. Mathematics

*EDN 542 The Teaching of Mathematics (3)
*EDN 546 Diagnosis and Remediation in Mathematics (3)

B. Literacy

*EDN 501 Language Development (3)
*EDN 534 Teaching Developmental Reading (3)
*EDN 535 Diagnosis and Teaching of Reading/Language Arts (3)
EDN 537 Linguistics for Teachers (3)

EDN 538 Teaching of Writing (3)
EDN 539 Children's Literature (3)
EDN 540 Adolescent Literature (3)
*EDN 547 Integrating Language Arts and Reading: Classroom Practice (3)

C. Social Studies
*EDN 543, The Teaching of Social Studies (3)

D. Science
*EDN 544 The Teaching of Science (3)
*EDN 548 Inquiry - The Method of Science (3)

III. Electives

Six semester hours.

EDN 599, Thesis may be selected (1-6 hours)

*Field-based activities are required in these courses. The activities will be cooperatively designed, and will be supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, "Research in Education", or "Tests, Measures, and Measurement in Education." A comprehensive examination will be required.

Middle Grades Education

The program leading to the Master of Education degree in middle grades education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. The 36 semester hour program is comprised of nine hours of the educational core common to all of the elementary graduate programs, nine hours in academic content courses, and nine hours in professional procedures and research appropriate to the middle school level. The choice of six hours of a thesis and/or elective hours of approved graduate courses complete the program.

The program is designed to enhance skills in teaching children at the middle grade levels focusing on the role and function of the teacher as decision-maker. The planned program of graduate study is intended to extend depth of knowledge in the content discipline to be taught, as well as breadth of knowledge in curriculum development, selection of instructional alternatives, understanding of the unique needs of early adolescents, and design of evaluation.

I. Education Core

EDN 500 Human Development and Learning (3)
EDN 530 Curriculum (3)
EDN 523 Research in Education (3)

II. Content Specialty Courses

Nine hours in courses from one content area usually taught in middle schools (Language Arts, Mathematics, Science, or Social Studies) to be selected from graduate offerings in the departments of Biology, Chemistry, Earth Sciences, English, History and Mathematics.

III. Middle Level Specialty Courses

*EDN 549 Middle School Education (3)
*EDN 577 Practicum in Middle Grades Education (3)
One professional education graduate course appropriate to the content area in which the student has certification.

IV. Electives

Six semester hours

EDN 599 Thesis may be selected (1-6 hours)

Electives appropriate to middle grades education as decided in consultation with the graduate advisor.

*Field-based activities are required in these courses. The activities will be cooperatively designed, and will be supervised by university and field personnel.

Graduate certification in an additional content area may be obtained by completing part II above and the appropriate graduate methods course in that academic area. The appropriate content specialty section of the National Teacher Examination also is required.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, "Research in Education." A comprehensive examination will be required.

Reading Education

The program leading to the Master of Education degree in reading education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. The 36-semester hour program is comprised of 12 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and six semester hours of controlled electives.

Based upon the view of the professional as decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific practices. Accordingly, the program is comprised of a "professional core," essential conceptual foundations and general technologies, and a reading specialization with related language arts options. The National Teacher Examination, specialty area, is required for certification.

I. Reading Education Core

EDN 500 Human Development and Learning (3)
EDN 523 Research in Education (3)
EDN 525 Tests, Measures and Measurement in Education (3)
EDN 530 Curriculum (3)

II. Concentration

A. Group I (3 hours)
Select one:

*EDN 501 Language Development (3)
EDN 537 Linguistics for Teachers (3)

B. Group 2 (15 hours)

EDN 505 The Reading Process (3)
*EDN 534 Teaching Developmental Reading (3)
*EDN 535 Diagnosis and Teaching of Reading/Language Arts (3)
*EDN 536 Teaching Reading in the Content Areas (3)
*EDN 572 Practicum in Reading (3)

C. Group 3 (6 selected hours)

EDN 538 The Teaching of Writing (3)
EDN 539 Children's Literature (3)
EDN 540 Adolescent Literature (3)
EDN 545 Black Literature and Resources for Teachers (3)

*EDN	547	Integrating Language Arts and Reading: Classroom Practice (3)
EDN	559	Adult Literacy (3)
*EDN	573	The Disabled Reader (3)
EDN	599	Thesis (6)

*Field-based activities are required in these courses. Such activities will be cooperatively designed, and supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed in the required course, "Research in Education." A comprehensive examination will be required.

Applicants who do not hold North Carolina Class "A" teacher certification may be admitted. In such cases, the specified undergraduate courses necessary for education certification will be required in addition to the graduate courses.

Special Education

The program leading to the Master of Education degree in special education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in special education in at least one area of exceptionality. The program provides a cross-categorical perspective with emphasis in three areas of mild handicapping conditions: mental retardation, learning disabilities, and behaviorally/emotionally handicapped. The 36-semester hour program is comprised of 15 semester hours of conceptual and technical studies, 18 semester hours in the area of specialization, and three semester hours of controlled electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," essential conceptual foundations and general technologies, and a concentration in special education. The National Teacher Examination, specialty area, is required for certification.

I. Special Education Core (15 hours)

*EDN	501	Language Development (3)
EDN	503	Exceptional Child Development (3)
EDN	511	Organizational Behavior (3)
EDN	523	Research in Education (3)
EDN	530	Curriculum (3)

II. Concentration (21 hours)

A. Group 1 (18 hours)

*EDN	524	Consultation Strategies for Teachers of Exceptional Children (3)
*EDN	535	Diagnosis and Teaching of Reading/Language Arts (3)
*EDN	546	Diagnosis and Remediation in Mathematics (3)
EDN	552	Program Development for the Mildly Handicapped (3)
*EDN	553	Classroom Management of Mildly Handicapped Children (3)
*EDN	574	Practicum in Special Education (3)

B. Group 2 (3 selected hours)

EDN 504 Issues and Trends in Special Education (3)
EDN 554 Educating Young Handicapped Children (3)
EDN 555 The Mildly Handicapped Adolescent (3)
EDN 591 Independent Study (3)
EDN 595 Selected Topics in Education (related to exceptional children) (3)
EDN 599 Thesis, may be selected (6)

*Field-based activities are required in these courses. Such activities will be cooperatively designed, and will be supervised by university and field personnel.

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, "Research in Education." A comprehensive examination will be required.

Students who are accepted provisionally (without at least one course in mental retardation, one course in learning disabilities, and one course in behaviorally, emotionally handicapped) must take these courses before receiving the master's degree.

Educational Administration and Supervision

The Master of Education program in educational administration and supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instructional specialist. The 33-semester hour program is comprised of 15 semester hours of conceptual and technical studies common to both specialties, 12 semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core," essential conceptual foundations and general technologies, and "tracks" in which the specific professional roles are addressed. The National Teacher Examination, specialty area, is required for certification.

NOTE: This program is currently under review and subject to change. Prospective students should contact the department chair for details of expected revisions.

I. Administration-Supervision Core

EDN 502 Schools and Society (3)
EDN 510 Organization and Control of American Education (3)
EDN 511 Organizational Behavior (3)
EDN 521 Leadership in Educational Institutions (3)
EDN 523 Research in Education (3)

II. Administrative Track

EDN 512 Legal Structures in Education (3)
EDN 560 Personnel Administration (3)
*EDN 561 Leadership Application (3)
*EDN 570 Internship in Educational Administration (3)
Electives, Six semester hours
or
EDN 599 Thesis, may be selected (6)

III. Supervision Track

EDN	500	Human Development and Learning (3)
*EDN	520	Instructional Development (3)
*EDN	530	Curriculum (3)
*EDN	571	Internship in Educational Supervision (3)

Electives, Six semester hours

or

EDN 599 Thesis, may be selected (6)

*Field-based activities are required in these courses. Such activities will be cooperatively designed, and will be supervised by university and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, EDN 521, "Leadership in Educational Institutions," and EDN 523, "Research in Education". A comprehensive examination will be required.

MASTER OF ARTS IN TEACHING

The School of Education offers a program of study leading to the Master of Arts in Teaching degree. This program is comprised of a core of professional studies designed to enhance the instructional decision-making skills of secondary teachers and a specialization track designed to enhance knowledge of subject matter, structure of the disciplines, and appropriate modes of inquiry. The program seeks to address the continuing commitment of the university to the improvement of educational services to the clients of elementary and secondary schools in southeastern North Carolina.

The Master of Arts in Teaching for secondary teachers is offered in the following specialties: biology, chemistry, English, history, and mathematics. The Master of Arts in Teaching program provides advanced academic and professional study and training for individuals holding, or qualified to hold, North Carolina Class "A" secondary teacher certification in one of the academic specialty fields included in the program. The program is comprised of 36 semester hours, 12 in professional education as specified below, and 24 in the academic specialty.

Admission Requirements

Applicants seeking admission to the Master of Arts in Teaching program are required to submit the following to the Graduate School:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Miller Analogies Test or the Graduate Record Examination
4. Three recommendations by individuals in professionally relevant fields

A bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; an overall academic average of "B" or better in the basic courses prerequisite to the area of proposed graduate study; a North Carolina teacher's certificate (or equivalent) in the area of proposed study; and satisfactory scores on the Graduate Record Examination or Miller Analogies Test are required.

Degree Requirements

1. The program requires a minimum of 36 semester hours, with 12 prescribed in professional education competency areas and 24 in the academic specialization. A maximum of six semester hours of credit may be transferred from another accredited institution. Grades on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. A written comprehensive examination addressing both the professional core and the academic specialty will be required.

3. The program must be completed within five years of the date of first registration for graduate study.

I. Professional Core

EDN 500 Human Development and Learning (3)
EDN 520 Instructional Development (3
EDN 523 Research in Education (3) **or** a designated research course in the discipline

EDN 565 Curriculum and Instruction in Secondary Subjects (3) **or** a designated course in the discipline which requires a supervised clinical practicum experience in a public school classroom

II. Academic Track

A. Biology

24 semester hours are required. Of this number, two are common to all students, and 21 will be selected in consultation with the program advisement committee. The common requirement is:

BIO 501 Methods in Scientific Research (2)

B. Chemistry

24 semester hours are required. Of this number, six are common to all students, and 19 will be selected in consultation with the program advisement committee. Within the latter category, a maximum of eight semester hours may be selected from other disciplines in the natural and mathematical sciences. The common requirements are:

CHM 501 Introduction to Chemical Research (2)
CHM 591 Directed Individual Study (Chemical Research) (3)
CHM 595 Graduate Seminar (1)

C. English

24 semester hours are required. Of this number, six are common to all students and 18 will be selected in consultation with the program advisement committee. The common requirements are:

ENG 501 Introduction to Research Methods in English (3)
ENG 502 Introduction to Literary and Writing Theory (3)

In addition, all students will select at least two courses in the study of literature which may include EDN 545, Black Literature and Resources for Teachers (3). Students will utilize the remaining 12 semester hours to extend one or more of the following areas of interest: linguistics, writing, and literature.

D. History

24 semester hours are required in the following pattern:

HST 500 Historiography and Methodology (3)

A 12-semester hour concentration, including seminar and colloquium in one of the following areas:
American history
European history
Non-western history

Six to nine semester hours selected from the two remaining concentration areas. Six semester hours may be selected from another social science or humanities discipline, but may not be included in the concentration. The program also shall meet the following additional constraints: two additional seminars or colloquium courses and two post-1900 courses, at least one of which must be in the concentration area.

E. Mathematics
24 semester hours are required. Of this number, 12 are common to all students and 12 will be selected in consultation with the program advisement committee. The common requirements are:

MAT 511-512 Real Analysis I, II
MAT 541-542 Modern Algebra I, II
(MAT 595-596 may be taken in lieu of EDN 523 to satisfy the research requirements)

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500. Human Development and Learning (3) Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501. Language Development (3) Focus on the development of language and its relation to cognitive processes in young children. Theories of language learning and growth are explored in terms of patterns of evidence and in terms of implications for decision-making affecting school children. Concepts associated with language structure, functions, and processes are developed. A variety of language and language-education topics are explored.

EDN 502. Schools and Society (3) Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, and biculturalism.

EDN 503. Exceptional Child Development (3) Prerequisite: EDN 501. Designed to provide and understanding of the intellectual, emotional, and physical development of exceptional children. The interplay of biological and environmental factors that produce deviations in development is examined. Organized around a developmental approach to the study of exceptionality that suggests strategies for determining bases of exceptionality. Implications of development differences for the special educator will be stressed.

EDN 504. Issues and Trends In Special Education (3) Designed to focus on emerging directions related to the education of exceptional children. Relevant social, educational, bio-medical, developmental, psychological, and legal issues will be examined as well as implications for the schools.

EDN 505. The Reading Process (3) Prerequisites: EDN 523, 525, or consent of the instructor. Develops conceptualization of the process of reading in mature readers and

of stages in literary development. Analysis of psychomotor and psycholinguistic parameters of reading, word recognition and sentence processing both for beginning and advanced readers, the task of learning to read, factors affecting reading development, and of schema theories of comprehension.

EDN 510. Organization and Control of American Education (3) Designed to include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511. Organizational Behavior (3) Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social-systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512. Legal Structures in Education (3) Prerequisites: EDN 510 or approval of department. Designed (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally consistent practices.

EDN 520. Instructional Development (3) Designed to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and objective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experience.

EDN 521. Leadership in Educational Institutions (3) Designed to develop knowledge and skill in: (a) the identification and analysis of decision situations, alternatives, procedures for choice and design, and analysis of educational information systems; (b) planning techniques (including Quality Organization, results-management, strategic planning, systematic network planning, and objectives; and (c) principles of group process, motivation and interpersonal relations, the effects of leadership forms in mobilizing student, staff and community support for educational programs, and strategies for developing effective public relations programs. Activities will include lecture, discussion, case and situation analysis of school systems.

EDN 522. Educational Media (3) Designed to provide students with the theory and practical skills necessary for selecting, producing, and evaluating instructional materials. Students will learn to produce and use a variety of audio-visual materials including

graphics, transparencies, slides, and video-tapes. Instruction in operating and troubleshooting equipment also will be treated. The primary goal of this course is to develop confidence and competency in the media area. This course will include lectures and a workshop format. During the course students will produce media materials for an instructional unit.

EDN 523. Research in Education (3) Designed to develop research competencies required for interpretation and critique of research reports and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 524. Consultation Strategies for Teachers of Exceptional Children (3) Designed to develop communication skills relevant for the decision-making roles of the special education teacher. Emphasis on group dynamics, conflict resolution, generation of alternative solutions, interview procedures, parent conferences, team meetings, orientation of general educators, and mainstreaming handicapped children.

EDN 525. Tests, Measures, and Measurement in Education (3) Prerequisite: EDN 301, EDN 520, or approval of instructor. Designed to develop a conceptual framework for obtaining and interpreting data about behavioral and psychological traits of persons that may be needed for a variety of purposes. Particular attention will be given to developing understanding of validity of measures for the intended purposes and for assessing the trait that is intended to be measured. Students will learn to make judgments of validity of testing systems and to develop valid tests and testing systems. Mathematical and statistical tools will be studied for analyzing items, tests, and scores and students will practice their use. Students will learn to use computers for test development, and test administration, and to analyze records of performance on tests.

EDN 530. Curriculum (3) Develops a conceptual framework for understanding curriculum in relation to other aspects of educational systems. Students learn to evaluate curricula in terms of structural elements, underlying value orientations, and assumptions about subject matter and about learning. Introduction to issues of curriculum change, implementation, evaluation, development, and design.

EDN 531. Study of Teaching in Early Childhood Education (3) Designed to improve teaching performance and to develop competencies in the critical analyses of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532. Comparative Studies in Early Childhood Education (3) Prerequisite: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an in-depth cross-cultural survey of early childhood education in selected countries. The

history of philosophical thoughts, the political and socio-economic changes and research efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533. Early Childhood Education in Focus (3) Prerequisite: EDN 500, 501, 502, or approved of department. Designed to develop the ability to look to current trends and issues in early childhood education. Objectively, this course will include critical analysis of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 534. Teaching Developmental Reading (3) Develops understandings of an effective classroom reading program. Reviews practices, materials, and approaches for teaching basic reading skills through the analysis of research literature and critique of personal beliefs and practices.

EDN 535. Diagnosis and Teaching of Reading/Language Arts (3) Designed for the elementary, special education, and reading teachers, this course focuses on the comparison of alternative models for assisting individual learners with literacy/language learning. Students review current diagnostic tests, new diagnostic procedures, develop teaching strategies and apply those understandings to the tutoring of individual students. A diagnostic report is generated. Students are expected to articulate a position concerning the viability of models for diagnostic teaching in their school setting.

EDN 536. Teaching Reading in the Content Area (3) Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in a particular content area.

EDN 537. Linguistics for Teachers (3) A study of current American English and of the principles of analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom. Includes exploration of language related educational issues such as bilingualism, dialects, and disorders.

EDN 538. The Teaching of Writing (3) Intensive review of principles of grammar, rhetoric and usage (approximately 1/2 of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539. Children's Literature (3) Develops skills and understanding to improve teachers' competencies in formulating sound literature programs. Includes in-depth study of the functions of children's literature and criteria for evaluation of types of literature

suitable for children at various developmental levels. Factors influencing change such as paperbacks, representation of minorities, sexism, and censorship will be discussed.

EDN 540. Adolescent Literature (3) A comprehensive study of literature appropriate for the middle grades, its value in the school curriculum and its importance in fulfilling intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related materials are covered. Projects related to instructional preparation and student activities are required.

EDN 542. The Teaching of Mathematics (3) Focus on materials and methods for teaching mathematics in grades K-9, with emphases on the logical, psychological, and sociological foundations of mathematics education. A survey of curricula appropriate at the K-9 level. Library research in current topics related to the teaching of mathematics.

EDN 543. The Teaching of Social Studies (3) Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544. The Teaching of Science (3) To assure that science is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at various grade levels. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545. Black Literature and Resources for Teachers (3) A survey of black literature, including the examination of materials published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 546. Diagnosis and Remediation in Mathematics (3) The study and application of teaching mathematics in the diagnostic mode. Included will be a historical review of diagnostic procedures in mathematics, a survey of mathematics curriculum, an examination of the theoretical models of diagnosis and of materials useful to the classroom teacher or clinician. Intensive work with children experiencing difficulty in mathematics will be required.

EDN 547. Integrating Language Arts and Reading: Classroom Practice (3) Develops student ability to conceptualize and implement a classroom communication arts program. Analyzes patterns of learning and practices in teaching language arts processes and skills. Examines strategies for fostering language arts growth through integrated language activities. Field activity required.

EDN 548. Inquiry — The Method of Science (3) The course assumes initial-level competency in the curriculum and methods of science. The course will focus on the conceptualization of and rationale for using the inquiry method of teaching science.

Students will participate in activities taken from a variety of science curriculum programs for elementary through senior high school. The course also will provide students with an opportunity to acquire and practice the skills needed to utilize the inquiry method and to guide scientific investigations at K-12 levels. Methodology and types of activities appropriate to the student's level of teaching will be selected.

EDN 549. Middle School Education (3) Study of educational programs for upper elementary education (junior high, middle school, intermediate school). Review of learning, physical, and social characteristics of "transescents" and historical and current approaches to their education. Comparison and contrast of curriculum, instruction, administrative and organizational features of exemplary and typical intermediate, middle and junior high schools.

EDN 550. Nature and Needs of Exceptional Children (3) This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics, etiology, educational procedures, and psycho-social implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is open only to elementary majors and administration/supervision majors.

EDN 552. Program Development for Mildly Handicapped (3) Prerequisites: EDN 530. Designed to develop an understanding of how to develop and teach relevant curricula to handicapped children through systematic instruction. Focus on characteristics and etiology, assessment, planning, implementation of instructional plans, and selection and utilization of appropriate methods and materials for a wide range of curricular areas.

EDN 553. Classroom Management of Mildly Handicapped Children (3) Designed to develop knowledge and skills, necessary for planning and implementing various classroom management strategies. Focus on observation and measurement of behaviors, design of classroom management strategies, utilization of strategies in the special education and regular classroom environment.

EDN 554. Educating Young Handicapped Children (3) Overview of early childhood education for the handicapped. Trends toward early identification of handicapping conditions and appropriate intervention strategies will be examined. Methods for dealing with developmental delays in regular and special preschool settings will be studied. Working with parents and primary caretakers of young handicapped children will be emphasized.

EDN 555. The Mildly Handicapped Adolescent (3) Designed to provide a basis for understanding the educational needs of mildly handicapped adolescents. The following topics will be covered during the course: the impact of handicapping conditions on the developmental tasks of adolescence; strategies for the remediation of deficits in basic skills; the interrelationship of vocational intervention; the current status of educational programs for the mildly handicapped.

EDN 556-557. Clinical Teaching in Reading Recovery (3-3) Prerequisite: Permission of the instructor. Develops skills in observing, recording, and analyzing children's reading and writing behaviors and in implementing effective methods for teaching literacy to young children at risk of reading failure. Generates understanding of theories of reading and writing processes and of reading acquisition from an emergent literacy perspective.

EDN 559. Adult Literacy (3) Examines the definition of illiteracy and the problem of adult literacy. Reviews approaches to dealing with the problem from philosophical, pedagogical, and sociological bases. Reviews the many movements to overcome the problem in the United States and abroad. Provides students with ideas, methods, and materials for teaching adults to read.

EDN 560. Personnel Administration (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop knowledge, skills, and abilities in specification and analysis of roles and role performance, and in selection, supervision, and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures and a variety of simulated personnel related tasks.

EDN 561. Leadership Applications (3) Prerequisites: EDN 502, 510, 511, 521, or approval of department. Designed to develop skills and abilities in analysis, initiation, establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management, communications, information systems, and budgeting. Activities will include lecture, discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562. Automation in Administrative and Instructional Practices (3) Prerequisite: EDN 510 or approval of department. Designed to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563. Educational Environments (3) Prerequisites: EDN 502, 510, 511, or approval of department. Designed to develop knowledge, skills, and abilities in the analysis, design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564. Politics and Policy-Making in Education (3) Designed to study the theories, processes, functions, limits, alternatives, goals, and consequences of policy-making

as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 565. Curriculum and Instruction in Secondary Subjects (3) Prerequisites: EDN 500, 520, 523 or approval of department. Designed to develop curriculum and instructional skills in the content areas, the course will address generic skills and applications within specific content areas. The student will demonstrate planning and presentation skills in a supervised practicum.

EDN 570. Internship in Educational Administration (3) Prerequisites: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing administrator and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 571. Internship in Educational Supervision (3) Prerequisite: EDN 510, 511, and 521. The internship is designed to provide the student with experiences required to bring together theory, research, and practice. The major emphasis is leadership development. Field experiences with a practicing supervisor and on-campus seminars are integrated in ways to provide direct linkages between theory and practice.

EDN 572. Practicum in Reading (3) Prerequisite: EDN 535. Application of understandings of literacy processes and literacy acquisitions to the level of the classroom. Student designs and implements a classroom program based upon a defensible philosophical perspective.

EDN 573. The Disabled Reader (3) Prerequisites: EDN 535, 572. Designed to develop competence and performance in testing teaching, and designing reading/learning programs for the severely disabled reader. Appropriate referral services will be identified. Consultation skills will be developed. Supervised practicum required.

EDN 574. Practicum in Special Education (3) Designed to provide a supervised internship in a cross-categorical special education setting. Provides experiences in diagnosing individual needs, developing educational programs, instructing mildly handicapped students, designing and implementing classroom management techniques, and consulting with teachers, administrators, parents and other professionals.

EDN 575-576. Seminar and Practicum in Early Literacy Intervention (3-3) Prerequisite: Permission of the instructor. Co-requisite: EDN 501, 505, and 556-557. Explores theories of professional development, supervision, and systematic changes and issues affecting early literacy, program development, and teacher learning. Develops skills for implementing, evaluating, and improving literacy intervention programs, including Reading Recovery, and skills in facilitating conceptual change and improving teaching performance. Seminar and practicum experiences extend over two semesters.

EDN 577. Practicum in Middle Grades Education (3) Prerequisite: Six hours of graduate study in the academic content. Designed to provide a supervised internship in a middle

grades setting. Focus on integration of graduate level academic content in area of certification with instructional strategies. Should be taken concurrently with an appropriate methods course.

EDN 591. Independent Study (3) Prerequisites: 15 semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

EDN 594. Seminar in Education (1-4) Designed to assist the elementary reading or special education graduate student in identifying and synthesizing ideas within and across courses and formulating reasoned responses to contemporary educational questions.

EDN 595. Special Topics in Education (1-4) Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon approval of the dean of the Graduate School. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599. Thesis in Education (1-6) Prerequisites: EDN 523, at least 18 additional hours toward completion of the master's degree, and permission of instructor. Intensive study of topic selected by student and approval by thesis committee. Includes definition of problem, review of related literature, application of appropriate methodology, and interpretation of results and conclusions. Oral presentation and defense of thesis required.

SPECIAL ACADEMIC PROGRAMS

SPECIAL ACADEMIC PROGRAMS

INTERNATIONAL PROGRAMS

The Office of International Programs was established at the University of North Carolina at Wilmington to represent its commitment to international education. The office has responsibility for coordinating area studies programs, faculty and student exchange programs, and other international activities at the university. The goal is to expand and strengthen international ties among individuals, offices, and programs on campus and to encourage the exchange and flow of ideas and information so crucial for the development of global knowledge and awareness. Further information can be obtained by contacting the director of International Programs in the University Union.

ADMISSIONS - INTERNATIONAL STUDENTS

International students must present evidence of their ability to speak, read, and write the English language and to meet fully the financial obligations associated with their study at the university. Students from foreign countries where English is not the primary language must present the results of the TOEFL examination (Test of English as a Foreign Language) as a part of their application for admission. A minimum score of 550 is required for admission to all programs, but this score does not guarantee acceptance. A financial responsibility statement and proof of accident and hospital insurance must also be submitted.

COOPERATIVE PH.D. IN MARINE SCIENCE

The Graduate School at UNCW cooperates with North Carolina State University in a joint program leading to a Ph.D. in marine science. The degree is awarded by the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University and features opportunities for completing some course work and the dissertation research at UNCW. At UNCW, faculty in chemistry, geology, and the biological sciences participate in the program. Marine science students complete a major and minor field of study and are expected to be familiar with areas of marine science other than their own. Students applying for the program must have previously earned a master's degree in an appropriate natural science at UNCW or other accredited institution.

Specific requirements include: after admission to the program, 15 hours of graduate course work must be completed at NCSU before a student takes the preliminary (qualifying) examination. The examination, which includes written and oral components covering the major and minor areas, shall be conducted at NCSU. At least nine hours of course work shall be completed in residence at UNCW. Each student shall complete three core courses from related areas of marine science; the areas are biological oceanography, chemical oceanography, geological oceanography and physical oceanography. Specific requirements vary with each student's program, but doctoral programs normally require 27 to 36 hours of course work, excluding research and dissertation credits, beyond the master's degree. Residence requirements must be fulfilled by completing 18 credit hours of continuous registration at NCSU. A research-based dissertation in the major area of specialization must be completed and approved, including a successful oral defense of the work. Students are allowed a maximum of six calendar years after admission to attain candidacy and a maximum of 10 calendar years to complete all degree requirements.

Students interested in this program should contact the Graduate School at UNCW for application materials.

EXTENSION COURSES

The Division of Academic Affairs administers the university's extension (academic) program. Through the Contract Extension Program, freshman and sophomore level courses are offered at three community colleges: Bladen Community College in Dublin, NC; Sampson Community College in Clinton, NC; and Brunswick Community College in Supply, NC. The community colleges recruit and enroll students who are high school graduates or the equivalent. Students enrolled in the program who wish to become degree candidates at the university must apply and meet regular admission requirements for freshman or transfer students.

Additional extension offerings also include undergraduate and graduate courses in the field of education at off-campus sites. Utilizing primarily UNCW faculty, these courses may be used to meet the staff development and/or graduate education requirements for local teachers.

Extension registrations are received by the Division of Academic Affairs while requests for transcripts should be sent to the Office of the Registrar of the University of North Carolina at Wilmington.

Further information concerning all extension courses may be obtained by contacting the Division of Academic Affairs.

SCIENCE AND MATHEMATICS EDUCATION CENTER

The Science and Mathematics Education Center at UNCW is a member of the University of North Carolina Mathematics and Science Education Network. The center offers a wide range of professional development programs for inservice middle school and high school mathematics and science teachers. Through center sponsored seminars, workshops, and courses, teachers can achieve initial certification in science or mathematics and renew existing certificates.

Information concerning upcoming programs may be obtained by contacting the director of the Science and Mathematics Education Center.

GRADUATE FACULTY

GRADUATE FACULTY

Bylaws governing the Graduate Faculty were initiated in 1990 by the Graduate Council and subsequently approved by both the provost and the chancellor. The Bylaws state that the members of the faculty may apply for the Graduate Faculty whenever they meet criteria established by their respective academic units.

COLLEGE OF ARTS AND SCIENCES

Department of Biological Sciences

Kimon T. Bird, *associate professor of biology,* B.A., University of Texas, Austin; M.S., University of Southern California; Ph.D., University of South Florida, Tampa.

Eric George Bolen, *professor of biology,* B.S., University of Maine; M.S., Ph.D., Utah State University.

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Joseph R. Pawlik, *associate professor of biology,* B.S., University of Minnesota; Ph.D., Scripps Institution of Oceanography, University of California, San Diego.

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Robert D. Roer, *professor of biology,* B.S., Brown University; Ph.D., Duke University.

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Department of Chemistry

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Jack Charles Hall, *associate professor of geology,* B.S., Grand Valley State College; M.S., University of North Carolina at Chapel Hill; Ph.D., Ohio State University.

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Department of English

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CAMERON SCHOOL OF BUSINESS ADMINISTRATION

Department of Accountancy and Business Law

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Department of Economics and Finance

Denis G. Carter, *associate professor of economics,* A.B., Boston College; Ph.D., University of Florida.

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Ned Stephen Robinson, *assistant professor of economics;* B.S., M.S., Middle Tennessee State University; Ph.D., University of Oklahoma.

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Department of Management and Marketing

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Department of Production and Decision Sciences

John Michael Anderson, *associate professor of management information systems,* B.S., United States Naval Academy; A.B., University of North Carolina at Wilmington; M.B.A., East Carolina University; Ph.D., North Carolina State University.

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SCHOOL OF EDUCATION
Department of Curricular Studies

David Michael Andrews, *associate professor of science education adjunct associate professor of biology,* B.A., Southern Connecticut State University; M.Ed., Ed.D., University of Maine at Orono.

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Department of Educational Design and Management

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SCHOOL OF NURSING

Marlene M. Rosenkoetter, *professor of nursing,* Diploma in Nursing, Barnes Hospital School of Nursing; B.A., M.Ed., University of Missouri; M.S.N., East Carolina University; Ph.D., St. Louis University.

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